



BY APPOINTMENT
MOTOR CAR MANUFACTURERS TO H.M. THE KING
HUMBER LIMITED

HUMBER HAWK

MARK III

Owner's Handbook

A PRODUCT OF
THE ROOTES GROUP

Issued by
HUMBER LIMITED COVENTRY

WALTER HALL

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OWNER'S
HANDBOOK

HUMBER

HAWK

MARK III

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PRODUCT

ISSUED, BY
HUMBER LIMITED, COVENTRY

WORLD EXPORTERS
ROOTES LIMITED
PICCADILLY — LONDON — ENGLAND

LONDON SERVICE
ROOTES LIMITED
LADBROKE HALL, BARLBY ROAD
NORTH KENSINGTON, W.10

FOREWORD

The Humber Hawk Mark III has been evolved from vast experience gained over the years in the successive stages of the development of this world famous car. Amongst the new features are Independent Front Suspension with coil springs, Synchromatic Finger-tip Gear Change, Lockheed Two Leading Shoe Hydraulic Brakes and up-to-date body styling, with greatly improved and more comfortable seating.

This Owner's Handbook has been written with the object of providing, in the simplest possible manner, a complete guide for the Owner, whether at Home or Overseas, in the operation of his Humber Hawk.

Successive pages of this book deal with the Controls and their correct operation, Starting and Driving Instructions, **the all-important "RUNNING-IN" of the new car and its vital bearing on future satisfactory performance**, Correct Lubrication and Periodical Attention.

On pages 28 and 29 will be found a Summary of Periodical Attentions, including Lubrication, and items are set out under Mileage and Kilometre Headings and opposite each item is a page number on which will be found full details for carrying out the particular operation.

Care of coachwork and certain other items, which depend on prevailing conditions of weather or climate rather than distance covered, are dealt with separately.

With regard to the various accessories, not of the Company's manufacture, such as Electrical Equipment, Carburettor, etc., brief instructions on their care, based on information supplied by the respective makers are included in this book.

FIRST SERVICE INSPECTION—

500 MILES (800 KM.)

Every owner or user of a new Humber Hawk should realize the importance which the Manufacturers attach to the carrying out of a general inspection of the car after the first 500 miles (800 kilo) have been covered.

So much importance is attached to this by the Manufacturers in the interests of the user that it is an obligation on the part of every Humber Distributor, Dealer or Retail Dealer, responsible for the retail sale of the car, to provide this service on a free-of-charge basis, subject to the car being presented for this purpose.

The details of the service to be carried out will be found on page 25.



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GENERAL DATA

ENGINE

R.A.C. Rating	13.95 H.P.
Number of Cylinders	4
Bore (in inches)	2.95
Bore (in m/m)	...	...	...	...	...	75
Stroke (in inches)	...	...	...	...	...	4.33
Stroke (in m/m)	...	...	...	...	...	110
Capacity (in cu. in.)	...	...	...	...	...	118.63
Capacity (in c.c.)	...	...	...	...	...	1944
Distributor Contact Gap	...	...	...	...	...	.010"/.012" (.254/.304 m/m)
Spark Plug Point Gap	...	...	...	...	...	.028"/.032" (.711/.812 m/m)
Ignition Timing—Static (at full retard)	...	...	...	...	...	4° B.T.D.C.
Firing Order	...	...	...	...	...	1-3-4-2
Compression Ratio	...	...	...	...	...	6.4 : 1
Engine Oil Pressure (Hot)	...	...	...	...	...	40/50 lbs. per sq. in.

VALVE TIMING

Inlet Opens	...	13° B.T.D.C.
Inlet Closes	...	47° A.B.D.C.
Exhaust Opens	...	51° B.B.D.C.
Exhaust Closes	...	9° A.T.D.C.

TAPPET CLEARANCES

Inlet	...	...	.010" (.254 mm.)
Exhaust	...	...	.010" (.254 mm.)

CARBURETTOR-JET SETTINGS

(STROMBERG TYPE DBA 36)

Venturi	...	...	...	...	...	$\frac{31}{32}$ "
Metering Jet	...	...	...	...	...	.045" Home and Export
By-pass Jet	...	...	...	...	...	.030" Home and Export
Idle Tube Feed (bottom)	...	...	...	...	...	70
Idle Tube Top Bleed	...	...	...	...	...	75
Idle Hole (discharge hole)...	...	...	...	...	...	68
Progression Hole (discharge hole)	...	...	...	...	...	60
High Speed Bleed	...	...	...	...	...	70

GEARBOX

Gear Ratios (Synchro-mesh on top, 3rd and 2nd speeds)

Top	...	...	...	...	...	4.55 : 1
3rd	...	...	...	...	...	6.78 : 1
2nd	...	...	...	...	...	11.24 : 1
1st	...	...	...	...	...	16.14 : 1
Reverse...	...	...	...	...	...	21.62 : 1

ADDENDUM

IB226/2. Pages 8 and 63.

September, 1949.

The tyre pressures as printed on this page have now been superseded and should read :—

Driver and One Passenger.

24 lbs. per sq. in. (1.7 Kg. per sq. cm.) Cold—Front.

" " " " " (" " " " ") Cold—Rear.

Fully Laden.

24 lbs. per sq. in. (1.7 Kg. per sq. cm.) Cold—Front.

28 lbs. " " " (1.9 " " " ") Cold—Rear.

CAPACITIES

Petrol Capacity ... ..	... 10 galls. (45 litres)
Oil Capacity—Engine	10 pts. (5.68 litres)
Oil Capacity—Gearbox ... ..	... 2 pts. (1.13 litres)
Oil Capacity—Rear Axle	1.75 pts. (1 litre)
Water Capacity	16.5 pts. (9.37 litres)
Battery Capacity ... ..	... 51 amp/hr.

TYRE MAINTENANCE

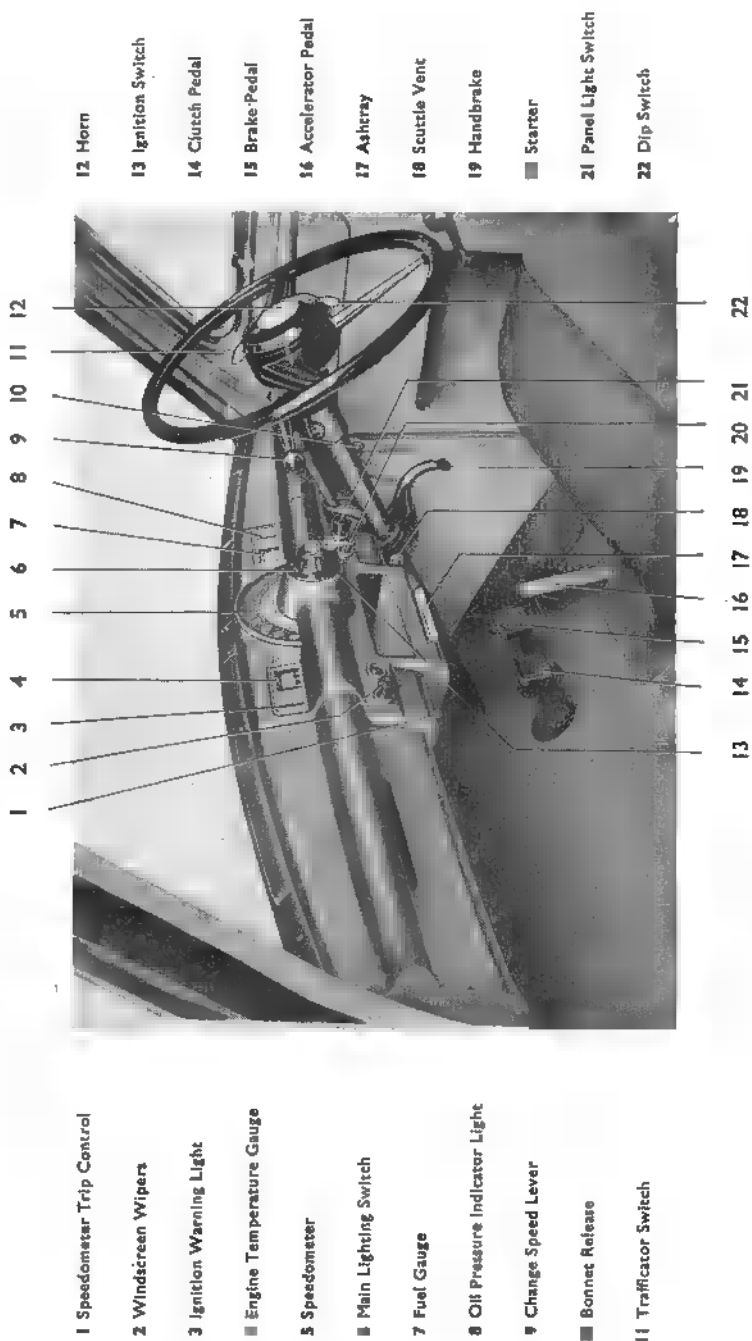
Tyre Size	5.50 × 15
2 Up Condition. 26 lbs. per sq. in. (cold) (1.8 kgs. sq. cm.)	Front.
■ lbs. per sq. in. (cold) (1.9 kgs. sq. cm.)	Rear.
Fully Laden Condition. 26 lbs. per sq. in. (cold) (1.8 kgs. sq. cm.)	Front.
30 lbs. per sq. in. (cold) (2.0 kgs. sq. cm.)	Rear.

DIMENSIONS

Wheelbase	105.5"	(2680 mm.)
Track—Front	56"	(1422 mm.)
Track—Rear	57"	(1448 mm.)
Overall Length (without over-riders)	174"	(4420 mm.)
Overall Length (with over-riders)	179"	(4547 mm.)
Overall Height	64.25"	(1632 mm.)
Overall Width	70"	(1778 mm.)
Ground Clearance	6.68"	(170 mm.)
Weight of Car (dry)	23½ cwts.	(1270 Kg.)
Turning Circle	37'	(11 m.)
Front Wheel "Toe-in"	½"	(3.175 mm.)

LAMP BULBS

Head (Double Filament) Home R.H.D.	
Export	Lucas 300 12 V. 36/36 W.
Head (Double Filament) L.H.D. Export	Lucas 301 12 V. 36/36 W.
Head (Single Filament) (Home)	Lucas 162 12 V. 36 W.
Pilot (Side)	Lucas 989 12 V. 6 W.
Ignition and Dynamo and Oil Pressure	
Warning Lights, Fuel Gauge, Water	
Temperature and Speedometer Illu-	
mination Bulbs 15 mm.	Smith P.42925/1 12 V. 2.4 W.
Stop and Tail	Lucas 189 12 V. 24/6 W.
Rear Number Plate	Lucas 989 12 V. 6 W.
Roof (Interior Light)	Lucas 254 12 V. 3 W.
Trafficators	Lucas 256 12 V. 3 W.
Clock	Lucas 254 12 V. 3 W.



1 Speedometer Trip Control

2 Windscreen Wipers

3 Ignition Warning Light

4 Engine Temperature Gauge

5 Speedometer

6 Main Lighting Switch

7 Fuel Gauge

8 Oil Pressure Indicator Light

9 Change Speed Lever

10 Bonnet Release

11 Trafficator Switch

12 Horn

13 Ignition Switch

14 Clutch Pedal

15 Brake Pedal

16 Accelerator Pedal

17 Ashtray

18 Scuttle Vent

19 Handbrake

20 Starter

21 Panel Light Switch

22 Dip Switch

CONTROLS AND DRIVING HINTS

(See Illustrations on pages 9, 11, 13, 14 and 15).

In order that the owner-driver may obtain a high standard of performance from his Humber Hawk, and therefore derive a full measure of satisfaction in driving it, the following description of the location and operation of the various controls and instruments are included.

IGNITION SWITCH

Fitted in the centre of the lighting switch in the centre of the facia panel—turn key clockwise for "on". Switch "off" when car is parked.

IGNITION AND DYNAMO WARNING LIGHT

Situated on the left hand (N/S) of facia panel, the letters "IGN" will light up in red when the ignition is switched on and remains alight when the engine is at idling speed. Immediately the engine is accelerated the Ignition and dynamo warning light should go out, indicating that the dynamo is charging the battery. If the red light fails to go out when the engine is accelerated, or lights up at normal engine speed when the car is travelling, it is an indication that the dynamo has stopped charging and the cause should be investigated at once.

WATER TEMPERATURE GAUGE

Next to the Ignition and Dynamo Warning Light on left hand side (N/S) of centre of the facia panel.

LIGHT SWITCH

Situated in the centre of the facia and has three positions:—"Off", "Side"—Side (pilot) and tail lamps. "Head"—Head, side (pilot) and tail lamps.

SPEEDOMETER

Fitted in the top centre of the facia panel, and records speeds in m.p.h. (or K.P.H.) In addition there is a total mileage recorder and trip recorder. The speedometer trip control is accessible at the lower edge of the facia, to the left side (N/S) of the ashtray; push up and turn to return figures to zero. (See also maximum safe running-in speeds, page 23).

FUEL GAUGE

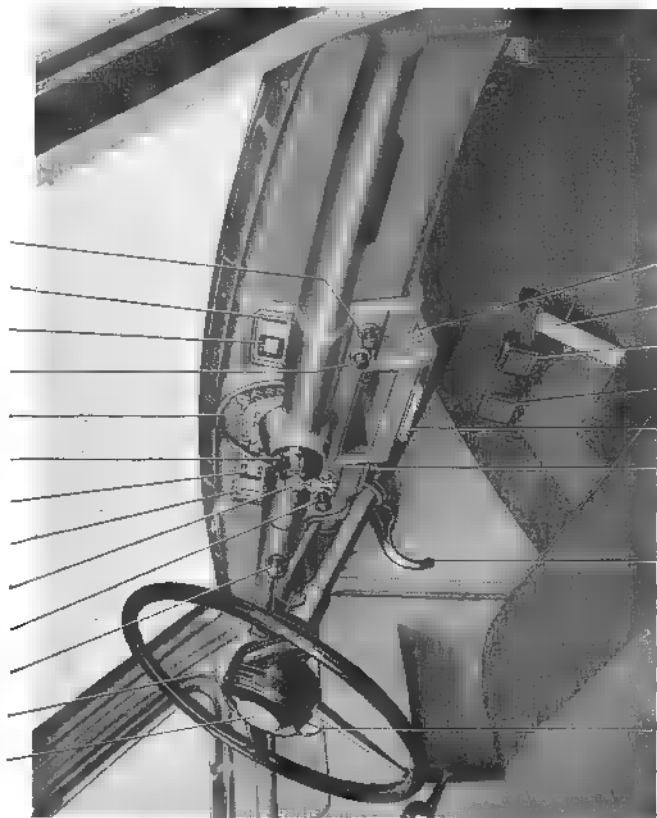
Situated next to the speedometer on the right hand side (O/S) of facia panel. Registers only when Ignition is switched on.

OIL PRESSURE INDICATOR LIGHT

Situated on the right-hand side (O/S) of the fuel gauge.

The letters "OIL" will light up in green when the ignition switch is turned on. The light will stay on until the engine has started, and a predetermined oil pressure is reached, when it should go out.

12 11 9 2 13 3 4 6 5 20 7 8 21



1 Speedometer Trip Control

2 Windscreen Wipers

3 Ignition Warning Light

4 Engine Temperature Gauge

5 Speedometer

6 Main Lighting Switch

7 Fuel Gauge

8 Oil Pressure Warning Light

9 Change Speed Lever

10 Bonnet Release

11 Trafficator Switch

12 Horn

13 Ignition Switch

14 Clutch Pedal

15 Brake Pedal

16 Accelerator Pedal

17 Ashtray

18 Scuttle Vent

19 Handbrake

20 Starter

21 Panel Light Switch

22 Dip Switch

19 17 14 15 16 18 22

Facia Panel and Controls, L.H.D. Models.

If the light fails to go out, or lights up when the car is being driven, the engine must be stopped at once, or **SERIOUS DAMAGE MAY RESULT**. The cause of the trouble must be found and rectified before the engine is re-started. It is suggested that the engine oil level is checked in the first place.

If the warning light fails to glow when the ignition is turned on before the engine has been started, this may indicate that the bulb or wiring is at fault. The trouble should be rectified ■ soon as possible. If this is not done, no warning of engine oil pressure failure will be given.

NOTE.—The warning light does not indicate the oil level in the engine sump.

WINDSCREEN WIPER SWITCH

To the left-hand side (N/S) of the ash tray. Pull to switch on wipers. The wipers will only operate if the ignition switch is in the "on" position.

To park the wiper blades, switch off wipers when the blades are at their lowest point of the right-hand side (O.S.) wiping arc.

STARTER CONTROL

Situated on the facia below and to the right-hand side (O.S.) of the ignition and lighting switch. To operate press the button.

PANEL LIGHT SWITCH

To the right-hand side (O.S.) of Starter Control. The instruments on the facia panel are illuminated indirectly. Pull the switch to switch on the panel lights. These lights only come into operation when the main lighting switch is on "side" or "head" position.

DIP-SWITCH (HOME MODELS)

This control is situated at the bottom of the steering wheel control head. When the lever is switched to the left-hand side (N.S.) the right-hand side (O.S.) main headlamp beam goes out, and the left-hand side (N.S.) headlamp beam is deflected.

DIP-SWITCH (EXPORT MODELS)

The switch is in the same position. The operation of the switch will either cut out the left-hand side (N.S.) beam and deflect the right-hand side (O.S.) beam, or will deflect both main beams, according to the specification of the cars concerned.

HORN SWITCH

In the centre of the top of the steering column. (Independent from ignition).

INTERIOR LIGHT SWITCH

This is the small rotary switch fitted in the centre of the right hand side (O.S.) body pillar. Press for "on". Press again for "off".

This light is automatically switched on when either of the front doors is opened, in order to provide light for passengers entering or alighting from car.

NOTE.—When leaving the car overnight, it is essential to see that the front doors are securely closed. Otherwise the battery may be run down considerably owing to the interior light remaining on.

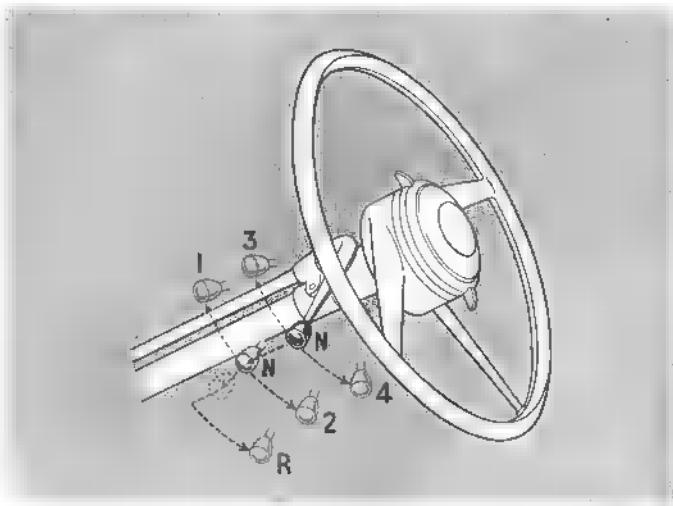
TRAFFICATOR SWITCH

Mounted on the centre of the steering wheel—upper. The trafficators will only operate when the ignition is switched on, and are self-cancelling.

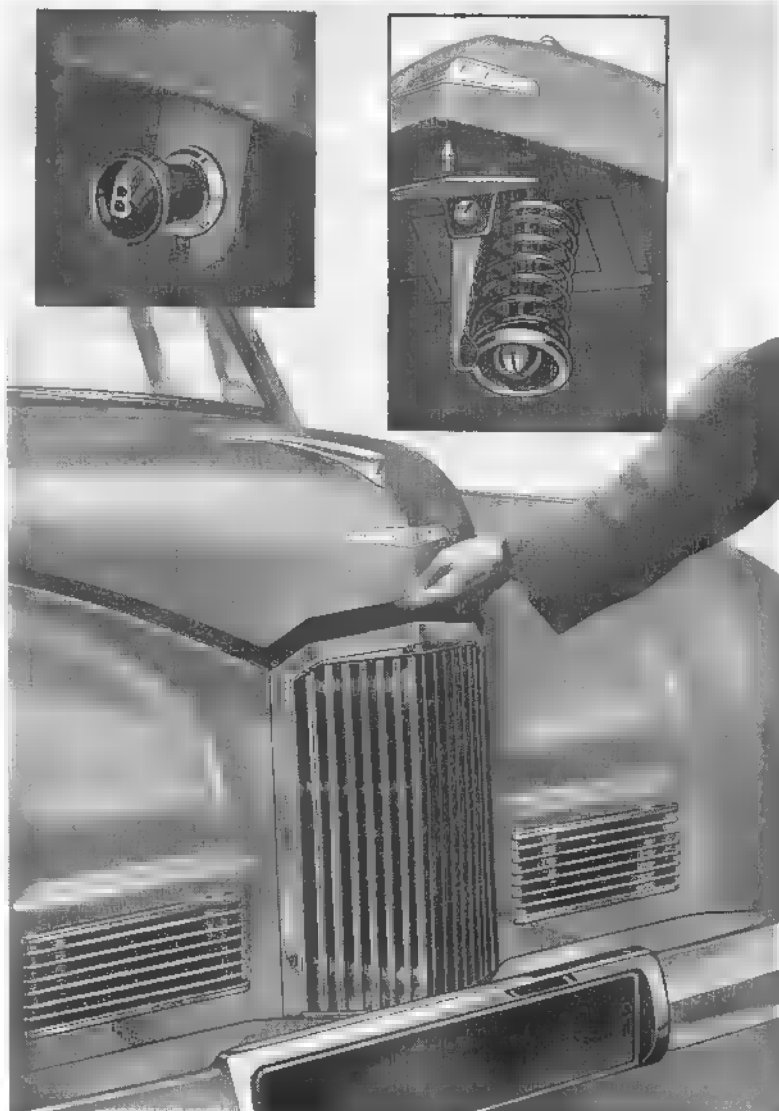
CHANGE SPEED LEVER

The new Synchromatic Finger-Tip Gear Change is operated by the Change Speed Lever which is mounted in a very convenient and accessible position below the steering wheel rim and can be operated merely by the tips of the fingers. For guidance in its use it is recommended that the diagram below is studied carefully.

In changing gear, operate the change speed lever smoothly and evenly—no effort is required. Until drivers become entirely familiar with this new gear control, it may be found helpful to change from



Change Speed Lever.



1. **TO OPEN BONNET**, pull Bonnet Release Knob "B" on right-hand side (O/S) of Facia (see inset above) until Bonnet is seen to spring upwards.
2. Push Safety Catch upwards to release.



3. Pull Bonnet slightly forwards, at the same time raising it fully upwards and secure in raised position by means of prop on left-hand side (N/S), which must be located in hole in underside of Bonnet as shown.
4. TO CLOSE BONNET, take weight with left hand release prop and fold it by swinging it forwards and downwards into the bracket provided. Lower Bonnet and press fully downwards.

1st to 2nd gear with the palm of the hand downwards. When changing from 2nd to 3rd, and from 3rd to top, the lever should be moved with the palm of the hand held upwards. When changing down from top to 3rd, change with the palm of the hand upwards. When changing from 3rd to 2nd, or from 2nd to 1st, operate the lever with the palm downwards.

To engage reverse, pull the knob outwards, move the gear lever downwards, as far as it will go, and then draw lever towards you.

This new Synchromatic Gearbox incorporates positive synchromesh operation on 2nd, 3rd and top gears.

A further point which will materially assist in obtaining a smooth change is the synchronization of engine and road speeds. The engine speed should be allowed to decrease when changing up and increased when changing down.

HANDBRAKE

Mounted under the right hand side (O.S.) of the facia, and should be used only for parking.

To release, pull slightly backwards, press trigger with forefinger, then push forward. The hand brake is the fully compensated rod and cable type operating on the rear wheels through levers incorporated in the rear hydraulic brake cylinders.

BRAKE PEDAL

Avoid violent braking. Use lower gears when descending steep hills. The foot brake is of the Lockheed hydraulic type and operates on all four wheels.

CLUTCH PEDAL

Should be operated decisively, using full range of travel. **Do not allow the foot to rest on the pedal when not using the clutch.**

ACCELERATOR PEDAL

Should be operated with discretion, using the range of throttle, opening to suit the engine requirements. Always operate the control smoothly, not in jerky movements.

See also notes on page 22, Starting Procedure.

Keep the foot off the accelerator pedal when starting from cold.

DRIVING MIRROR

This is adjustable and is mounted at the top centre of the windscreen.

ELECTRIC CLOCK

Mounted in the roof above driving mirror. To start clock, turn hands forward by control provided.

SLIDING ROOF

Is secured when open or shut by a quarter turn locking handle and can also be locked in any intermediate position desired.

DOOR LOCKS

The doors are opened by pulling the exterior handles outwards, or by pressing the interior door handles.

The left-hand side (N.S.) front door is locked by the Ignition key. The remaining doors are locked by raising the interior door handles, and it should be noted that the interior handles may be raised to the locked position either before or after the doors are closed.

ADJUSTABLE GLARE SHIELDS

Are mounted above the windscreen for both driver and front passengers.

SEATING

The front seat is of the bench type, and is adjusted by pressing adjustment lever downwards until seat is free to slide. After moving seat to required position, release lever so that the locking catch engages in the nearest slot in slide rail. After adjustment always test to ensure seat is locked in position. The front seat will accommodate 2 or 3 persons, depending whether or not the arm rest is lowered. To use arm rest pull forward.

The rear seat will accommodate 3 persons when the centre arm rest is not lowered. The seat is not adjustable.

DOOR POCKETS

Large pockets are fitted to both front doors.

FRONT DOOR WINDOWS

Main glass is regulated by rotating handle, turn forwards to lower and backwards to raise. Ventilating flap swivels through a wide angle and can be set to admit air without causing draughts inside the body, or, by opening to a position of 90° or more air is drawn into the body. The ventilators are secured in the closed position by a lever and cam fastener.

Rear door windows are controlled by rotating the handles and wind fully down.

SCUTTLE VENT

Operating knob is visible to the right hand side (O.S.) of the ashtray.

See also notes on VENTILATION on page 83.

ADDITIONAL FITTINGS

Ashtrays are provided for both front and rear compartments. A large parcel shelf is incorporated at the rear of the back seat

squab and a cubby box is built into the left hand side (N.S.) of the fascia panel. This is opened by pulling the door rearwards and downwards by means of the finger grip provided.

LUGGAGE BOOT

The boot lid is locked by the ignition key. To open, turn handle and lift.

The lid is supported by a telescopic pillar fitted on the inside on the right hand side, O/S of the boot. An automatic spring catch operates to hold the boot lid up. Lift lid to full extent and lower on to catch. To close, lift boot lid clear of automatic catch on pillar, and lower ; to secure turn handle to horizontal position.

SPARE WHEEL

Mounted in the boot and attached to mounting bracket by hand screw.

TOOLS

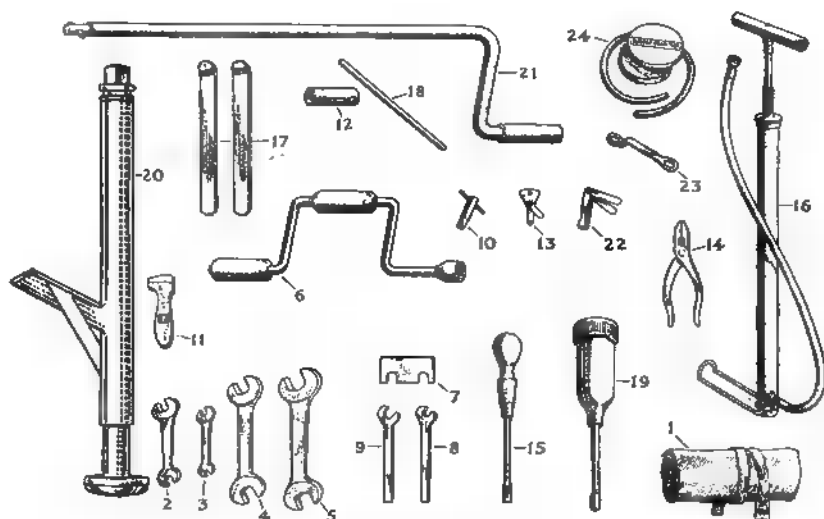
The tools are carried in clips mounted in the sides of the boot.



Luggage Boot, Spare Wheel and Tool accommodation.

TO INSERT STARTING HANDLE

Lever front number forward from top edge and hinge downwards, thereby uncovering aperture. Number plate is held in normal position by spring clip.



Set of Tools with Key.

KEY TO ILLUSTRATION

- | | |
|---|--|
| 1 Tool Roll. | 12 Spanner—Sparking Plug. |
| 2 Spanner—Double Ended, $\frac{1}{16}$ " B.S.F. $\times \frac{3}{8}$ ". | 13 Key — Distributor (incorporating screwdriver and contacts gauge). |
| 3 Spanner—Double Ended, 2 B.A. $\times \frac{1}{4}$ " B.S.F. | 14 Pliers. |
| 4 Spanner—Double Ended, $\frac{1}{2}$ " B.S.F. $\times \frac{1}{8}$ ". | 15 Screwdriver. |
| 5 Spanner—Double Ended, $\frac{3}{8}$ " B.S.F. $\times \frac{1}{8}$ ". | 16 Tyre Pump. |
| 6 Wheel Brace. | 17 Tyre Lever. |
| 7 Locking Plate—Tappet. | 18 Tommy Bar. |
| 8 Spanner—Tappet Screw. | 19 Grease Gun. |
| 9 Spanner—Tappet Locknut. | 20 Lifting Jack. |
| 10 Jet Key. | 21 Starting Handle Assembly. |
| 11 Adjustable Spanner 4". | 22 Valve and Sparking Plug Gauge. |
| | 23 Bleeder Wrench. |
| | 24 Bleeder Tube and Container. |

LIFTING JACK

The lifting jack, which is carried in clips inside the boot, is operated by turning the nut at the top, with the wheel brace. The boot lid must be OPEN when jacking the REAR of the car, as it cannot be opened with the jack in operating position.

When fixing the Jack either to the front or rear of the car it will be noticed that there is a square section recess just underneath the bumper at each side, front and rear of the car, into which the extension of the Jack is fitted.

It is important that the Jack is fully located in the brackets before lifting the car, and that no attempt should be made to attach the Jack in any position other than the brackets provided.

Before jacking up the car it is essential always to make quite sure that the hand brake is securely "ON" and if the car is on an incline, or if one of the rear wheels is being raised that BOTH the front wheels are chocked.

Under no circumstances should any work be carried out under the car when it is raised on the Jack unless a proper chassis stand is used to support the car.



Jacking—Front.



Jacking—Rear.

ROAD WHEELS

TO REMOVE AND REFIT

Remove the nave cover plate in the centre of the wheel by inserting the screwdriver between the wheel and the outer circumference of the plate and levering off, holding the plate meanwhile with the left hand.

To remove the road wheel nuts, the wheel brace, which is held in clips on the inside of the luggage boot, should be used. The wheel nuts of the road wheels have right-hand threads, i.e., turn anti-clockwise to remove, and clockwise to tighten.

THE ROAD WHEEL NUTS SHOULD BE SLACKENED BEFORE JACKING THE WHEEL.

When refitting a road wheel, see that the brake adjustment hole lines up with the corresponding hole in the brake drum.

To refit the nave cover plate the edges of the plate should be put over two of the locating lips on the wheel and the centre of the plate given a sharp blow with the side of the fist.

CAUTION.—*See that road wheel nuts are fully tightened, and check periodically. This should be done only when the weight of the car is on the road wheel, NOT when on the jack.*

STARTING PROCEDURE

The carburettor incorporates the automatic cold starting system known as the Stromberg Automatic Choke.

In the absence of the common hand strangler or starter carburettor control this device provides the correct mixture for the initial start from cold, together with progressive weakening of the mixture to normal strength as the engine temperature rises. An automatic fast idle mechanism is also included, which permits the engine to run when cold at a speed fast enough to prevent stalling, but which goes out of action when running temperature is reached.

ENGINE COLD

Place Change Speed Lever in neutral and hand brake "on". Depress accelerator pedal fully AND REMOVE THE FOOT (to trip fast idle mechanism).

Switch on ignition, noting that the dynamo and ignition warning lamp glows (RED) and, by looking at the fuel gauge, check that there is petrol in the tank. Press the starter switch. The engine should start immediately and continue to run at a fast idling speed. If the engine fails to start, do not operate the starter again until both engine and starter have come to rest. To ensure this, always wait one or two seconds before pressing the starter button a second time — this will obviate risk of damage to the starter mechanism. Run engine at fast idling speed for a few moments, press and release accelerator, when idling will automatically be reduced to a lower speed. The car may be driven away immediately on starting up. *No preliminary warming up is necessary.*

NOTES.—Under very cold conditions, see also Notes on page 79.

If the car has been out of use for a long time, or if it has been allowed to run out of petrol, fill the float chamber of the carburettor by operating the priming lever of the petrol pump. (See page 44). This will avoid undue use of the starter and save the battery.

STARTING ENGINE WHEN HOT

Switch on ignition and press the starter switch. Depress accelerator pedal slightly and remove the foot as soon as the engine starts.

NOTE.—STARTING IN VERY HOT WEATHER

If difficulty in starting the engine when "hot" in very warm weather is experienced, DO NOT AGITATE THE ACCELERATOR but PRESS DOWN FULLY AND HOLD WITH FOOT, then operate starter, when the engine will start easily. The foot must then be removed from the accelerator at once to prevent racing.

"RUNNING-IN" THE NEW CAR

The preliminary and progressive "running-in" of a new car and the method by which it is carried out is of the utmost importance in order that the car may give of its best as regards durability, sweetness of running, economy and freedom from trouble throughout its life. The process of "running-in" applies not only to the engine but equally to the transmission, i.e. gearbox, rear axle and in fact to the entire chassis. This process should continue, progressively over the first 1,000 miles (1,600 km.) of the life of the car.

The most important point to be remembered is that ■ no time must the engine be allowed to labour, particularly at low engine speeds, as in attempting to pull up hills on top gear, or attempting to accelerate from very low speeds in top gear. Make full use of the change speed lever in order to avoid over-loading the engine.

It is also most important that the engine speed should not be excessive during this period, and that it is never "raced" in neutral. Adherence to the following instructions as regards maximum road speeds in top gear and strict observance of the corresponding maximum road speeds in the lower gears (third, second and first), is of equal importance :—

Thirty-five miles per hour (56 k.p.h.) to forty-five miles per hour (72 k.p.h.) should be accepted as the maximum speeds during the first 500 miles (800 km.) unless very favourable conditions exist.

The speeds in the lower gears (third, second and first) giving the equivalent engine revolutions per minute ■ when travelling at thirty-five miles per hour in top gear are :—

25 m.p.h. (40 k.p.h.) in third gear.

15 m.p.h. (24 k.p.h.) in second gear.

10 m.p.h. (16 k.p.h.) in first gear.

Particularly during the "running-in" period, and at all other times, **the ■ of an upper cylinder lubricant is beneficial.** This should be added to the petrol in quantities as recommended by the manufacturers of the preparation used.

On completion of the first 500 miles (800 km.) and for the second 500 miles, i.e. until 1,000 miles (1,600 km.) have been covered the "running-in" speed in top gear may be increased progressively to a maximum of fifty-five miles per hour (88 k.p.h.) subject to favourable conditions, with correspondingly restricted speeds in the lower gears.

At the conclusion of 500 miles (800 km.) the car should be taken to the Distributor or Dealer from whom it was purchased for the **FREE SERVICE INSPECTION**, details of which are ■ page 25. *If for any reason it is found to be inconvenient*

to return it to the Vendor, the Service Inspection can be carried out by any Humber Distributor or Dealer. A FREE SERVICE INSPECTION VOUCHER should be requested from the Vendor, which should be handed to the Firm doing the work, who will in turn, return, it for honouring to the Trader who sold the car.

SCHEDULE OF FREE SERVICE

AFTER COMPLETING FIRST 500 MILES (800 KM.)

RADIATOR	...	Check water level and add water if necessary. Do not over-fill; allow for normal water expansion.
ENGINE	...	Check cylinder head nuts for tightness when engine is COLD . Remove sump, clean, refill and refill with new engine oil; check TAPPETS; check ignition and carburettor and make necessary minor adjustments. Check tension of fan/dynamo belt.
CLUTCH		Check control and effect minor adjustments.
GEARBOX		Drain gearbox (when hot) and refill.
REAR AXLE		Check wheel bearings and effect minor adjustments. Drain rear axle (when hot) and refill.
FRONT SUSPENSION AND STEERING		Check steering connections, wheel bearings and wheel camber and track. Effect minor adjustments.
CHASSIS DETAILS		Check road springs and U-bolts—tighten where necessary.
DAMPERS		Check fixing bolts for tightness, also bolts securing anti-sway bar.
WHEELS AND TYRES		Check all wheel nuts for tightness; examine tyres; check tyre pressures; effect minor adjustments where necessary.
BRAKES	...	Check fluid level in master cylinder and top up as necessary. Adjust brakes if required. Check hydraulic brake unions for leakage and tighten if necessary.
ELECTRICAL EQUIPMENT		Check dynamo, starter, lamps and switches. Effect minor adjustments where necessary. Check and "top up" battery if necessary. Test all instruments.
BODY	...	Check body and carry out minor adjustments as necessary. Lubricate door hinges, striking plates and door-locks.
GENERAL	...	Make a general external inspection of entire vehicle without dismantling. Oil and grease throughout.

All material used in carrying out the above to be charged to the customer.

RECOMMENDED LUBRICANTS

ENGINE—SUMP	...	Double Shell is recommended for both winter and summer for cars operating in the British Isles and territories with similar climatic conditions. For conditions of extreme temperatures a change in the grade of oil used may be desirable. Use Single Shell under very cold conditions (32° F. and below, approximately) and Triple Shell in very hot climates (over 90° F.), but when making the change, owners should consult the official Humber Dealer for advice.
ENGINE—UPPER-CYLINDER LUBRICANT		Shell Donax U.
WATER PUMP (Greaser)		Shell Retinax P.
WATER PUMP FRONT BEARING	...	Double Shell.
GEARBOX	...	Double Shell.
REAR AXLE	...	Shell Spirax E.P.90.
STEERING BOX	...	} Shell Spirax E.P. 140.
FRONT SUSPENSION	...	
CHASSIS LUBRICATION	...	
PROPELLER-SHAFT-SLIDING-SPLINES	...	
PROPELLER-SHAFT-NEEDLE-ROLLER-BEARINGS	...	
HAND BRAKE CABLE	...	Shell Spirax E.P.140.
WHEEL HUB BEARINGS		Shell Retinax R.B.
REAR ROAD SPRINGS...		Shell Engine Oil.
HYDRAULIC BRAKES		(Home Models) Lockheed Orange Fluid. (Export Models) Lockheed No. 5 Fluid.
"	"	
DAMPERS	...	Shell Donax A2 or Armstrong Special Shock Absorber Oil.

NOTE.—In Export territories, where Service Station chassis lubrication is installed which does not provide for the dispensing of oil, it is permissible to use Shell Retinax C (grease) for such chassis nipples where, under normal conditions, Shell Spirax E.P.140 is the official recommendation, **except for propeller shaft splines and needle roller bearings which must be lubricated with Shell Spirax E.P.140.**

FOR HAND GUN LUBRICATION, THE OFFICIAL RECOMMENDATIONS MUST BE ADHERED TO.

OIL EQUIVALENTS FOR U.S.A. AND CANADA

The description of all these oils holds good in the North American Continent, with the exception of the engine oils, the equivalents of which are as follows :—

Single Shell	Shell X.100 S.A.E.20
Double Shell ...	Shell X.100 S.A.E.30
Triple Shell ...	Shell X.100 S.A.E.40/50

All lubricants recommended by us are of the highest standard of quality, and have proved entirely satisfactory in extended service. They are each of the correct viscosity and character to afford complete lubrication protection.

IMPORTANCE OF CORRECT LUBRICATION

The importance of correct and regular lubrication cannot be over-stressed. The list of recommended lubricants on the preceding page and the intervals at which they should be applied, indicated under "Periodical Attention—Summary", pages 28 and 29, are based on research carried out in the Humber Engineering Departments, where "wear tests" are regularly conducted and the suitability of each grade of lubricant is proved.

Bearing this in mind the Humber owner will be well advised to adhere to the following instructions and to insist on the use of Recommended Lubricants only.

For use in conjunction with this book ■ Lubrication Chart is inserted at the end of this book.

Detailed instructions for larger maintenance operations especially those which become necessary after extended mile-ages, such as decarbonizing are **not** included in this publication as the work should be entrusted to the Humber Distributor or Dealer.

PERIODICAL ATTENTION SUMMARY

	<i>Page</i>
EVERY 200 MILES (320 KM.)	
Check oil level in engine	33
Check water level in radiator (also daily) ...	36
Check tyre pressures weekly	63
EVERY 500 MILES (800 KM.)	
Oil steering swivel pins (4 pressure nipples)	46
EVERY 1,000 MILES (1,600 KM.)	
Carry out the 200 miles (320 km.) and 500 miles (800 km.) services and in addition :	
Grease water pump	37
Examine electrolyte level in battery	70
Remove stones and flints from tyres	63
Oil steering track rod joints (6 pressure nipples)	46
Oil steering idler pivot (1 pressure nipple)	46
Carburettor air cleaner and silencer—See Notes	38
Check hydraulic brake pipe connections	61
EVERY 2,000 MILES (3,200 KM.)	
Carry out the 500 miles (800 km.) and 1,000 miles (1,600 km.) services and in addition :	
Drain engine sump (when hot) and refill	33
Inspect oil level in gearbox and replenish as necessary ...	53
Inspect oil level in rear axle and replenish as necessary ...	55
Inspect oil level in steering box and replenish as necessary	46
Clean and lubricate rear road springs	56
Oil clutch withdraw mechanism	49
Oil brake and clutch pedal pivot bushes and check clutch pedal adjustment (free pedal movement)	48, 49
Oil change speed control mechanism	50
Oil propeller shaft splines and needle roller bearings (3 pressure nipples)	54
Oil hand brake cable and linkage	62
Oil accelerator conduit and cable control linkage and carburettor control joints	44
Oil door locks, hinges, bonnet catches and hinges, etc. ...	78
Check hydraulic brake master cylinder and top up if necessary	57
Oil distributor shaft and cam bearing	65
Oil distributor automatic timing control	66
Oil distributor contact breaker moving contact pivot ...	66
Grease distributor cam profile	66
Clean and check distributor contacts	65

	Page
Clean sparking plugs and check gaps	64
Oil water pump, front bearing	37
Clean petrol pump filter and sludge chamber	43
Carburettor Air Cleaner and Silencer—See Notes	38

EVERY 5,000 MILES (8,000 KM.)

Check dampers... ..	62
Decarbonize engine and grind-in valves if necessary (Dealer)	

EVERY 6,000 MILES (9,600 KM.)

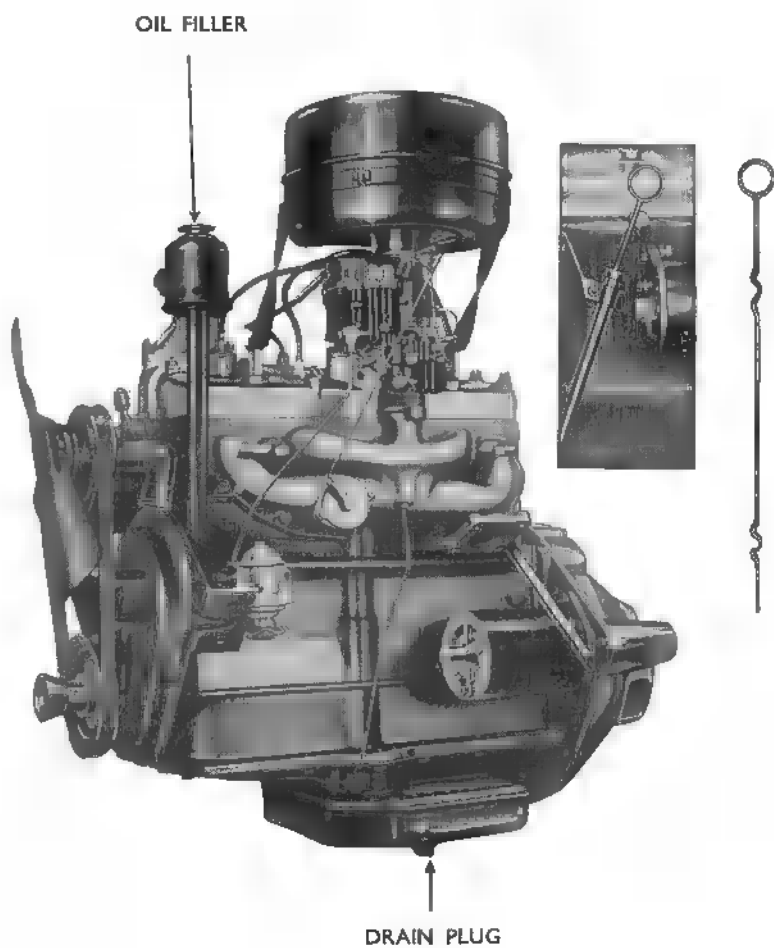
Carry out the ■ miles (320 km.) and 1,000 miles (3,200 km.) services and in addition :

Remove and clean engine sump and internal oil filters, refit and refill with new oil (Dealer)	34
Check and if necessary, adjust brakes	58, 59
Drain gearbox (when hot) and refill with new oil	54
Drain rear axle (when hot) and refill with Shell Spirax E.P.90 only	55
Lubricate front and rear hub bearings (Dealer)	48, 56
Clean carburettor (Dealer)	41
Clean inlet manifold drain pipe	42
Check and adjust valve tappets (Dealer)	31
Check track and camber of front wheels and adjust ■ necessary (Dealer)	48
Drain, cleanse, flush out and refill cooling system... ..	37
Lubricate trafficators	76
Check rear road spring U-bolts for tightness (Dealer)	
Lubricate dynamo	68

EVERY 10,000 MILES (16,000 KM.) (ANNUALLY)

It is recommended that the items detailed below receive attention annually, in late summer or autumn, in preparation for the more arduous driving conditions of winter.

Decarbonize engine and grind-in valves (where necessary) (Dealer)	
Check and adjust fan and dynamo belt (Dealer)	68
Check starter	70
Inspect fuses	69
Check and inspect lamps, change bulbs if blackened	71, 77
Check windscreen wiper, tighten and adjust arms, inspect blades	77
Check and inspect front hubs (Dealer)	48
Check adjustment of front wheel track and camber (Dealer)	
Check and adjust water pump gland nut (Dealer)	37
Renew filter element in A.C. by-pass oil filter	38



Engine.

(Inset shows oil level dipstick on right-hand side (O/S) of engine).

ENGINE

DECARBONIZING

(This work should be entrusted to the Humber Dealer).

Periodic removal of carbon from the cylinder head and pistons etc., together with the conditioning of the valves should be carried out at intervals varying with the conditions of usage. No specific mileage interval can be laid down after which decarbonizing should be carried out, but if the performance of the car is found to have fallen off after extended use, the Distributor or Dealer should be consulted. He will be in a position to examine the car and advise.

ALUMINIUM CYLINDER HEAD

This type of head must **NOT** be tightened down when hot.

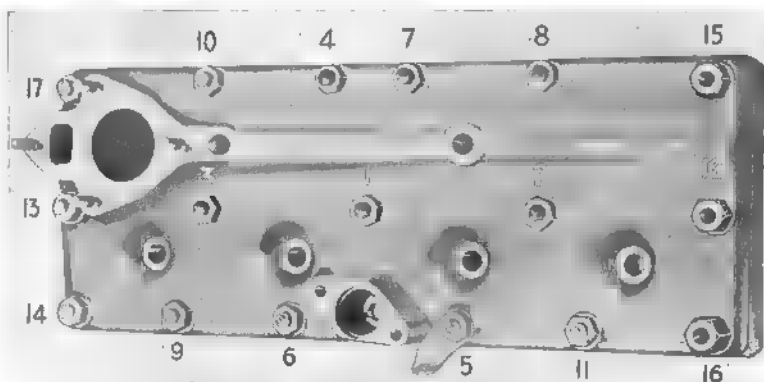
Tighten the nuts when the head is being replaced. It is important to note that further tightening is permissible only when the engine is cold.

It is important that the cylinder head nuts should be tightened down in the order shown in the illustration, pulling down each a little at a time until all are fully tight.

TAPPETS—TO CHECK AND ADJUST

EVERY 6,000 MILES (9,600 KM.)

To check the clearances of the tappets it is necessary to remove the left-hand side (N.S.) front wing valance and the inlet and



Order of tightening Cylinder Head nuts.

exhaust manifolds and the carburettor, for the operation to be carried out in an efficient manner, and **it is recommended that this work be carried out by a Humber Distributor or Dealer.**

For those owners who are sufficiently skilled to attempt this work the sequence of removal of the components to gain access to the tappets is as follows :—

Remove the left-hand side (N/S) front road wheel. This will reveal a plate which is fixed to the inside of the wing valance, which is removable on withdrawing the seven bolts securing it. The valve cover plate will now be accessible, having removed the manifolds.

Remove the two wing nuts securing the valve cover plate and remove the plate. The tappets will now be accessible.

The adjustment of the tappets should be carried out to give the correct clearances of :—

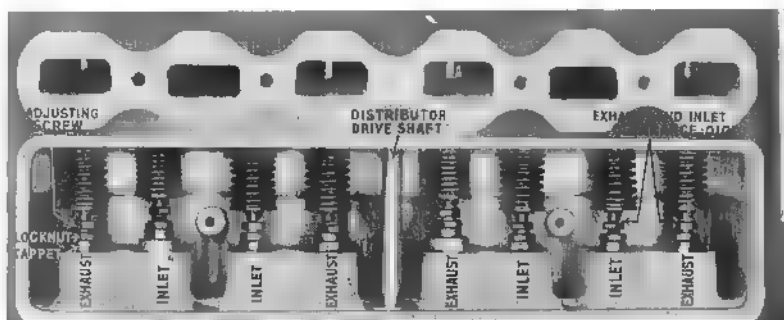
Exhaust .010" (.254 mm.).

Inlet .010" (.254 mm.).

It is most important that the clearance between the head of the tappet and the base of the valve stem is checked, and, if necessary adjusted, when the tappet is resting on the back or rounded portion of the cam contour, and the method to be adopted is as follows :—

Turn the engine until the valve at the tappet to be checked is fully open, then a further full revolution of the engine will ensure that the tappet is fully "down" and resting on the centre of the back of the cam. Treat each tappet similarly.

If adjustment is necessary, slacken the tappet locknut and turn the adjusting screw until the correct clearance is determined



Arrangement of Valves.
(NOTE.—.010" = .254 mm..)

by the use of a "feeler" gauge which is inserted between the valve stem and tappet screw head. To prevent the tappet itself from turning during this operation hold the tappet body by means of the special locking plate supplied (see illustration on page 19); this should be inserted between the tappet to be adjusted and the adjacent tappet.

As each clearance is adjusted the lock nut below the tappet screw must be tightened and the clearance checked again to ensure that the clearance has not been altered by the tightening of the locknut. It is essential that the clearances be re-checked with the lock plate removed.

ENGINE OIL SUMP AND FILTERS

TO CHECK OIL LEVEL EVERY 200 MILES (320 KM.).

In order to check the oil level accurately the car must be standing on a level surface, and the oil dipped before the engine has been started from cold. **Should the engine be hot it is essential to wait at least 5 minutes to allow all the oil in circulation in the engine time to drain back into the sump before taking the dipstick reading.** The dipstick is on the right-hand side (O.S.) of the engine (See illustration on page 30 inset).

The importance of checking the oil level every 200 miles (320 km.) will be appreciated, when it is remembered that if the oil level in the sump is too low the oil will become excessively hot, and its value as a lubricant reduced considerably.

NOTE.—The difference between "high" and "low" marks on the dipstick is 3 pints (1.7 litres).

NOTE.—It is intended that a small amount of oil should be consumed by all engines even in the new condition. This ensures that adequate lubrication takes place between the piston rings and the cylinder bore, under all conditions.

TO DRAIN AND REFILL OIL SUMP EVERY 2,000 MILES (3,200 KM.).

The draining should be done immediately after a run (when the oil is warm and will run more readily) by removing the drain plug fitted to the left-hand side (N.S.) of the sump.

Regular changing of the oil will ensure that the lubrication of the engine is being carried out by clean oil, this will have a marked bearing on the life of the engine.

After draining, replace the drain-plug, making certain it is secure, and refill with 10 pts. (5.68 litres) of Double Shell Engine Oil.

TO REMOVE AND CLEAN SUMP EVERY 6,000 MILES (9,600 KM.)

(This operation should be carried out by the Humber Dealer.)

To remove the sump, the dipstick and dipstick extension tube should first be removed and the oil drained (see page 33).

The setscrews securing the sump to the base of the crankcase should then be removed and the sump lowered away from the engine.

The filters of both sump and oil pump should then be removed and both filters cleaned by washing thoroughly in petrol or paraffin.

After drying carefully, to remove all traces of petrol or paraffin, the filters and sump should be reassembled and refitted.

In refitting the sump, it is preferable to fit a new joint and this should be stuck to the top face of the sump by means of a liquid jointing compound, after carefully removing all traces of the old joint. Avoid over-tightening the sump bolts as this may cause distortion with consequent leakage at the joint or possible breakage of the securing bolts. Use a **short** tommy-bar with the correct sized box spanner.

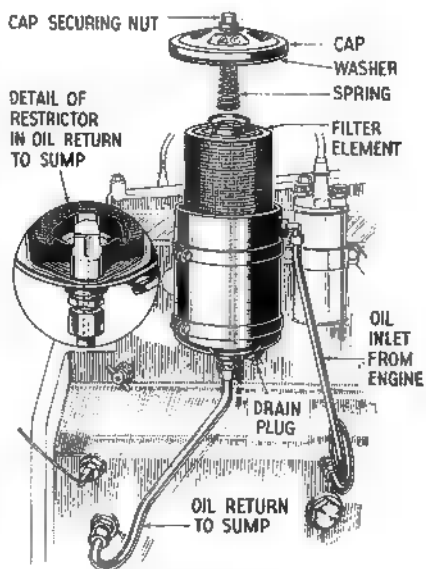
Finally, replace the dipstick tube, dipstick, and drain plug, and refill the sump with 10 pints (5.68 litres) of new engine oil. (See Recommended Lubricants, page 26).

TO CHECK AND RENEW A.C. BY-PASS FILTER EVERY 10,000 MILES (16,000 K.M.) (At Least).

The A.C. Filter is pressure fed from the main oil gallery of the engine, and approximately 10% of the circulating oil passes through the filter and back into the sump. Under normal conditions the filter element will operate efficiently for 10,000 miles (16,000 km.) before requiring renewal, but should be renewed more frequently if the oil appears black on the dipstick.

Access to the filter element is gained by slackening off the securing nut on the top and lifting off the cover. Before fitting a new element the barrel should be cleansed thoroughly with petrol, *but before doing this the return pipe to the engine from the filter must be disconnected from the base of the filter (see illustration on opposite page), the sludge being washed out through the orifice provided in the base after the drain plug has been unscrewed.* It should be noted that the protruding rim on the filter element must be fitted **upwards**.

NOTE.—The coil spring must be refitted as shown below and the sealing washer in the cover must be replaced with the new one which is supplied with the new filter.



By-pass Oil Filter.

COOLING SYSTEM

RADIATOR WATER LEVEL

CHECK EVERY 200 MILES (320 KM.)

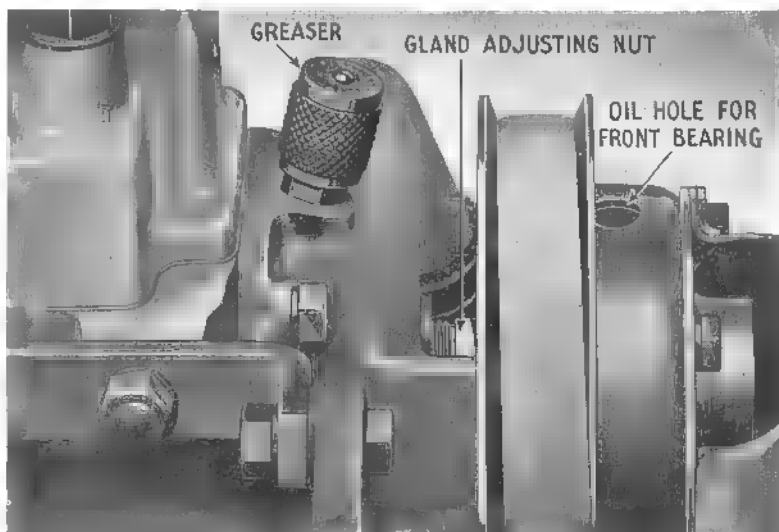
The radiator filler cap is situated on top of the radiator tank and is accessible on raising the bonnet. The water level should be inspected before taking the car out of the garage and replenished ■ necessary.

Soft water only should be used and in **no circumstances water with ■ high content of lime.**

The radiator cap is of the quick release type, and if the engine has over-heated for any reason, the cap should not be removed until the engine has cooled down, otherwise the hand may be scalded.

During the winter months an anti-freezing mixture, of which there are several on the market, should be added to the water, the object of which is to reduce the freezing point of the water to a point below any temperature likely to be encountered, except in extreme conditions.

(SEE ALSO "FROST PRECAUTIONS", page 79.)



Water Pump.

**WATER PUMP GREASER
EVERY 1,000 MILES (1,600 KM.)**

A greaser is fitted on top of the water pump and is accessible between the fan and the cylinder block. **One turn of the greaser should be given at intervals of 1,000 miles (1,600 km.).** When the cup of the greaser has been screwed right home it should be removed and filled with Shell Retinax P.

**WATER PUMP FRONT BEARING
EVERY 2,000 MILES (3,200 KM.)**

A few drops of engine oil should be added through the hole in the pump casting which is accessible when the hole in the fan pulley is at the top.

Check the water pump gland for leakage of water. If this is evident, the gland adjusting nut should be tightened slightly (clockwise as viewed from the front) with a spanner until leakage has ceased. The drain hole in the pump casting (below the gland nut) must be cleared with a piece of wire as otherwise water would accumulate and enter the outer bearing.

**TO DRAIN, CLEANSE, FLUSH AND REFILL
COOLING SYSTEM
EVERY 6,000 MILES (9,600 KM.)**

Periodically the entire cooling system should be cleansed, particularly in districts where, contrary to instructions, water having a high content of lime has been used for replenishing the radiator.

Drain the system by means of the **tap in the front of the bottom** of the radiator and accessible from under the front of the car and also the **tap fitted in the right-hand side (O/S) of the cylinder block** which is readily accessible from underneath the right-hand side (O/S) of the car. (The tap can be seen in the illustration on page 35, below inset circle). The draining should be carried out after a run and while the engine is still warm.

When all water has drained off, turn off drain tap. Fill radiator with a solution of cleansing compound (several reliable brands of which are available) and run the engine as directed by the makers of the compound.

Drain off cleansing solution completely and flush out the system with clean water. Turn off both drain taps and refill radiator either with soft water or anti-freeze mixture as required.

NOTE.—In using flushing compounds it is important to avoid splashing the paintwork of the car as this may have an injurious effect. Do not leave compound in radiator longer than recommended by the makers. The top and bottom radiator hose clips should be checked for tightness. Under no circumstances should any compound containing **Caustic Soda** be used.

THERMOSTAT—COOLING SYSTEM.

Incorporated in the cooling system and fitted on top of the cylinder head is a thermostat, the object of which is to allow the engine to attain its correct working temperature, i.e. 75° C. approx. (160°-170° F.), as quickly as possible after starting from cold, and also to assist in maintaining this temperature. This thermostat is not adjustable and normally requires no attention.

If, in the remote event of trouble being experienced through over-heating of the engine, or failure of the thermostat to function, the advice of the Humber Dealer should be sought.

FUEL SYSTEM

A.C. OIL BATH AIR CLEANER AND SILENCER—TO CLEAN AND RE-OIL

On this model an A.C. oil bath combined air cleaner and silencer is fitted, which gives high cleaning efficiency, combined with good air intake silencing.

As regards frequency for cleaning and re-oiling, each 2,500 miles (4,000 km.) can be taken as a general guide, although where cars are operating under extremely dusty conditions the frequency for servicing will need to be correspondingly increased.

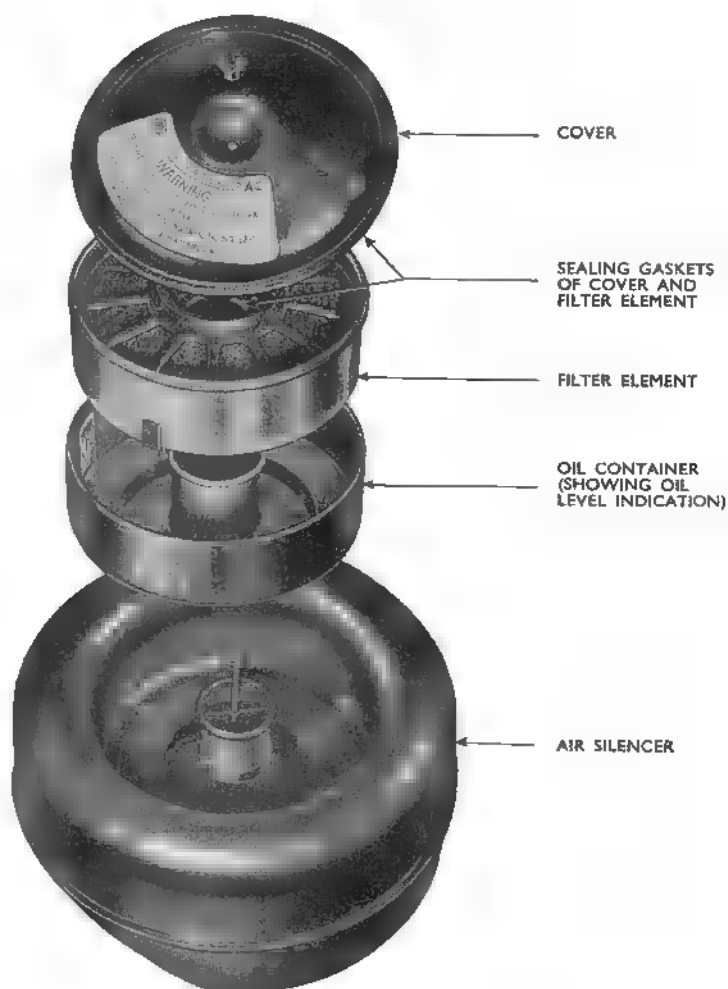
Procedure is as follows :—

Undo centre wing nut and remove filter cover, filter element containing the woven metallic mesh—and the oil container. There is no need to remove the outer silencer assembly, which remains in position on the engine.

All dirty oil and sludge should be thoroughly cleaned out of the oil container, which then needs re-filling with clean oil to the indicated level, and the oil container can then be replaced in position inside the silencing chamber.

The filter element should be cleaned by being thoroughly rinsed in a bath of petrol or paraffin—all surplus being afterwards shaken or dried off. The filter element can then be re-fitted inside the oil container, making sure that the cork sealing gasket located in the central tube of the element is in position and in good condition.

Finally, refit the cover to the top of the filter element, again making sure that the corresponding sealing gasket is in position and intact. The wing nut is fitted and tightened in order to hold the various units together.



A.C. Oil Bath with Cleaner and Silencer.

CARBURETTOR

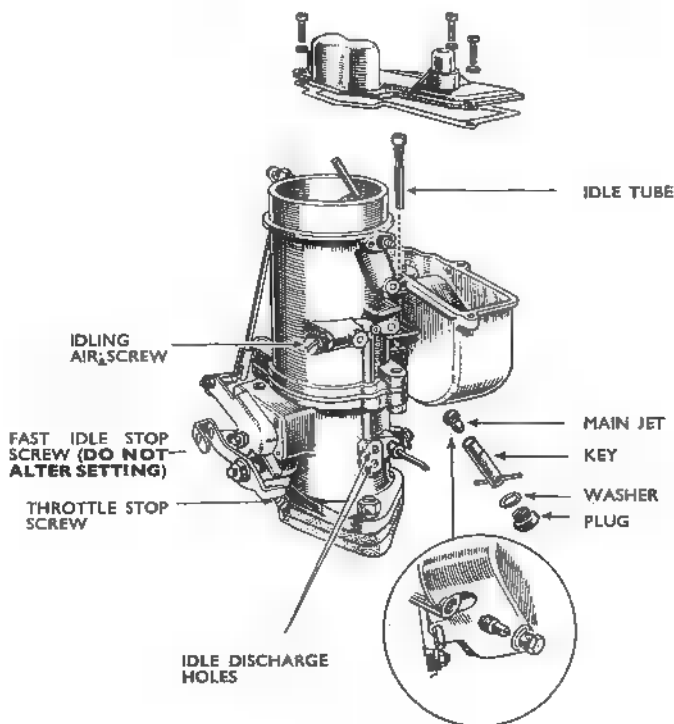
The carburettor which is a Stromberg Type DBA36, is set when the car leaves the Factory, to suit a new engine. After the running-in period has been completed it may be necessary to re-set the idling air screw, together with the throttle stop.

These two adjustments are actually the only adjustments that should require re-setting at any time, as the remainder of the adjustments are carefully set before the car leaves the Factory, in accordance with data obtained from extensive experimental work.

The fast idle stop must not in any circumstances be altered (see illustration below).

CARBURETTOR ADJUSTMENTS

The adjustments should be made only whilst the engine is at normal working temperature, i.e. approximately 75° C. (160°-170°F.).



Carburettor.

THE IDLING AIR SCREW

(See carburettor illustration) which gives ■ richer mixture when turned in ■ clockwise direction and vice versa, should be adjusted until the engine runs smoothly and evenly.

If after adjustment of the idling air screw the engine continues to run too fast, further adjustments should be made on **the throttle stop screw**, which when turned anti-clockwise slows down the engine and clockwise increases the speed. ■ **not interfere with the fast idle stop screw.**

As mentioned previously, these two adjustments should be all that are necessary on the carburettor, and if the desired results are not obtained by making these two adjustments, the trouble should be sought elsewhere. The inability to obtain smooth running may be due to dirty or incorrectly gapped sparking plugs ; dirty, incorrectly set or pitted distributor points ; loose manifold joints, blocked manifold drain pipe ; or, if the engine has not been de-carbonized, it may be necessary to have this work done. Consult the Humber Distributor or Dealer.

CARBURETTOR—CLEANING EVERY 6,000 MILES (9,600 KM.)

In exceptional cases an obstruction in the carburettor may occur, in which case the following points may be checked :—

Main Metering Jet—Cleaning

This may be removed for cleaning with the jet key provided in the tool kit and is visible after removing the hexagon plug in the base of the float chamber.

Idling Tube—Cleaning.

The idling tube, which is fitted in the float chamber cover gasket face, may be removed after the cover has been taken off, the cover being secured by three screws. The idling tube can then be removed with ■ small screwdriver. Any obstruction should be cleared by blowing through and never by passing ■ wire or any hard substance through the jet, ■ these are accurately calibrated, and any alteration in the shape or size of the orifice will affect the flow of fuel. These remarks apply to all jets and discharge holes.

Discharge Holes—Cleaning.

To rectify an obstruction in the discharge holes, remove the two plugs ■ shown in the illustration.

Sludge Chamber—Cleaning.

This is actually the base of the float chamber which is so designed as to allow any sediment to collect below the level of the jets. To remove the sediment it is necessary first to take out the float which is hinged on the screwed pin which will be seen above the petrol intake union, after removing the float chamber lid (3 screws).

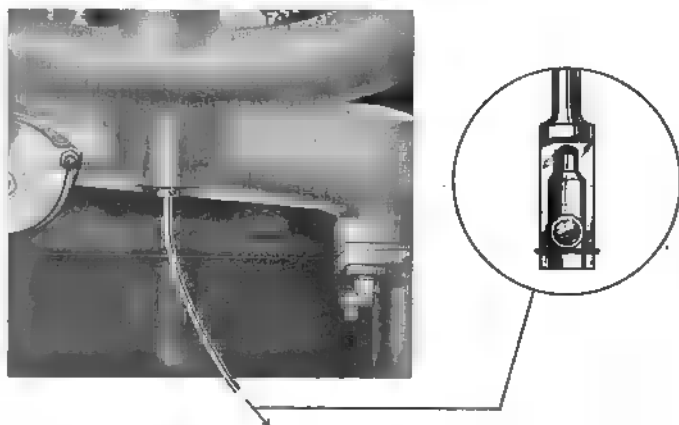
CARBURETTOR THERMOSTAT

No attention should be necessary to this thermostat which is accurately set before the car leaves the Factory. If difficulty arises and the thermostat is presumed to be out of adjustment, contact should be made with ■ Humber Distributor or Dealer as the adjustment is delicate.

INLET MANIFOLD DRAIN PIPE—TO CLEAN EVERY 6,000 MILES (9,600 KM.).

(See illustration below).

The inlet manifold pipe should be checked for obstruction, which, if present, should be removed as this will cause difficult starting due to petrol accumulating in the bottom of the manifold, which will have an extremely adverse effect on carburation. The inlet manifold drain pipe is removed for checking and cleaning by detaching the union from the manifold. Clear the drilling in the manifold with ■ piece of wire. The manifold drain pipe itself



Inlet Manifold Drain Pipe.

should then be checked by blowing through from the top end. If found to be obstructed, remove the small brass split pin from the lower end, thus releasing the ball valve. The pipe can then be cleared by means of a piece of wire of suitable size and at the same time the ball and its seating should be cleaned by washing in petrol or paraffin. Reassemble the ball valve to the drain pipe and secure with a new split pin.

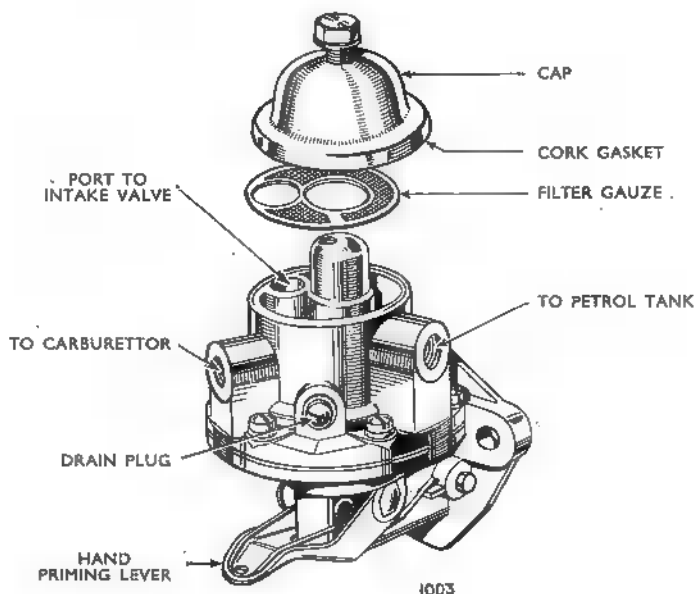
PETROL PUMP

PETROL PUMP—CLEANING EVERY 2,000 MILES (3,200 KM.)

The cleaning of the gauze filter and sludge chamber, both of which are exposed when the top cap is removed, are the only two items of maintenance required on the petrol pump.

A drain plug is provided on the side of the pump for draining the sludge chamber before cleaning.

When replacing the top cap, care must be taken to see that the cork gasket is intact and that it lies on its seat and



Petrol Pump.

that the fibre washer is replaced under the head of the retaining screw.

Whilst naturally the set screw must be replaced tightly to ensure an air-tight joint, excessive pressure must not be applied as this will cause rapid deterioration of the cork washer and possibly distortion of the cap.

HAND PRIMING LEVER

The hand-priming lever shown in the illustration is for use when, for any reason, the carburettor float chamber or pump bowl has become empty. A few strokes of the hand priming lever on these occasions will fill the float chamber with petrol and ensure easy starting without prolonged use of the starter and consequent excessive strain on the battery.

Owing to the special construction of the pump it is impossible to overfill the carburettor, as after several strokes with the hand-priming lever this will become free, indicating that the carburettor is full.

Should it be found that the hand-priming lever will not operate, turn the engine one revolution with the starting handle, thus freeing the petrol pump operating lever mechanism from the eccentric on the engine camshaft.

PETROL SHORTAGE AT CARBURETTOR

If the pump should fail to deliver petrol to the carburettor the following points should be checked :—

1. That petrol is available in the tank and that the unions in the pipe connecting the tank to the pump are tight.
2. That the pump filter is clean and that the cork washer below the top cap is in good condition.
3. The action of the pump, proved by working the hand-priming lever with the delivery pipe (pump to carburettor) disconnected.

If, after extended service, trouble is experienced with the petrol pump, no attempt should be made to remove it from the engine or to repair it. The services of the Humber Distributor or Dealer should be sought as these pumps are of specialized manufacture and their overhaul and repair is not normally within the scope of the owner-driver.

TO LUBRICATE ACCELERATOR CONDUIT AND

CHAINS

EVERY 2,000 MILES (3,200 KM.)

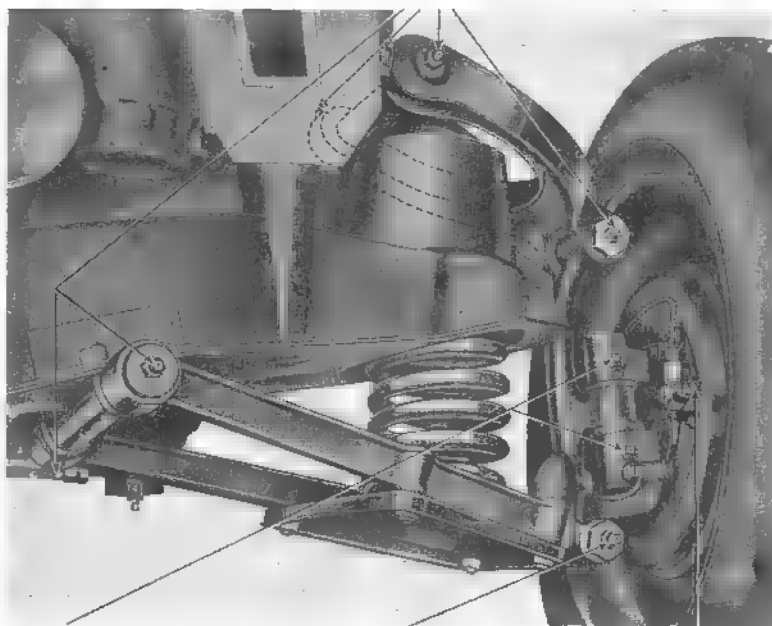
Engine oil should be used. (Double Shell.) (Oil can.)

INDEPENDENT FRONT SUSPENSION AND STEERING

(See Illustrations below and on page 47).

After extensive mileage, or, in the event of trouble being experienced or suspected, due to minor collisions such as the striking of kerbs, etc., the car should be taken to the Humber Dealer for a complete check of the front wheel track, camber, steering linkage, etc.

EVERY 1000 MILES
(1,600 KM)



EVERY ■ MILES
(800 KM)

EVERY 1,000 MILES
(1,600 KM)

HYDRAULIC
BRAKE BLEEDER
SCREWS—THESE
POINTS ARE NOT
LUBRICATORS

Independent Front Suspension—Left-hand side (N/S) front view. Note the pressure nipples for lubrication of swivel pins (2) and nipples for lubrication of top and bottom link threaded bushes (6). There are also eight corresponding pressure nipples on the right-hand side (O/S) of the car (not shown). (See also illustration on page 47).

**SWIVEL PIN BUSHES—TO LUBRICATE
EVERY ■ MILES (800 KM.). Four Nipples.**

Shell Spirax E.P. 140 is the correct lubricant for these nipples.

The swivel pin bushes have nipples fitted on the front of the stub axles ; these will be seen on the illustration on page 45.

It is advisable that the nipples be wiped free of road dirt before the gun is applied. This assists in locating the nipples, ensures a good "joint" between nipple and gun nozzle, and prevents dirt being forced into the bearings with the oil.

**FRONT SUSPENSION—
LUBRICATION OF THREADED BUSHES
EVERY 1,000 MILES (1,000 KM.). Twelve Nipples.**

(See Illustration on page 45).

Shell Spirax E.P. 140 is the correct lubricant for these nipples.

The front bearing of the upper link fulcrum pin, together with the bearing of the upper link eye bolt, ■ both be lubricated from the front of the car. *The rear bearings for the upper link fulcrum pins are accessible for lubrication from inside the bonnet.*

The front bearing of the lower link fulcrum pin, together with the bearing of the lower link eye bolt, can be lubricated from the front of the car. The rear bearing for the lower link fulcrum pin must be lubricated from underneath the car.

It is important that all nipples are cleaned before the lubricating gun is applied.

**TRACK ROD JOINTS AND STEERING IDLER PIVOT
TO LUBRICATE
EVERY 1,000 MILES (1,600 KM.). Seven Nipples.**

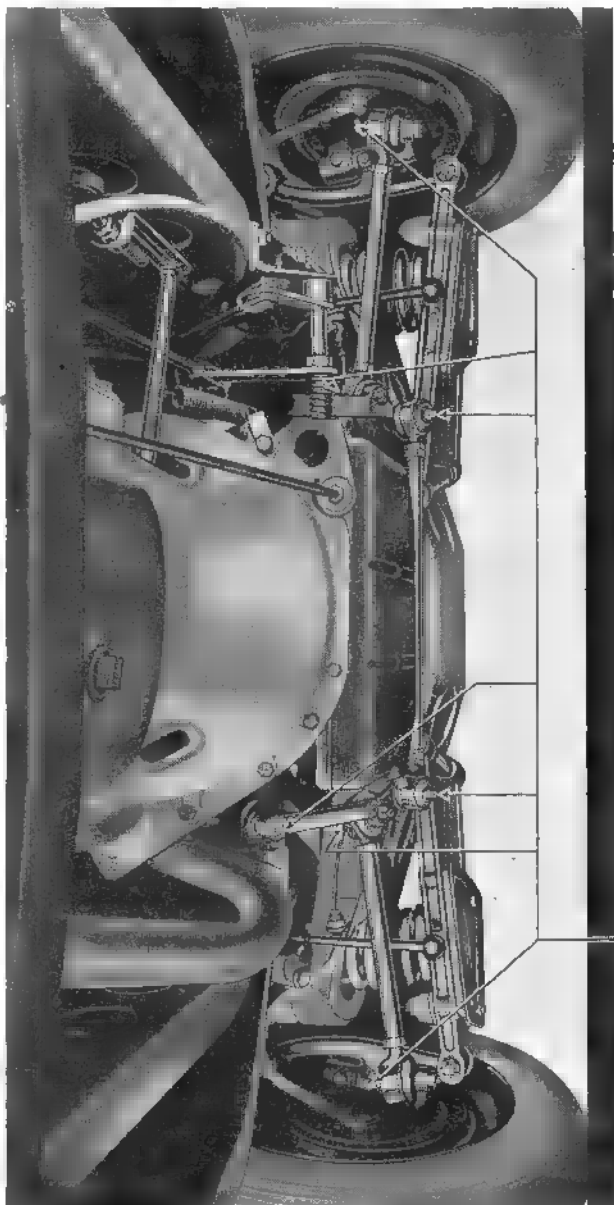
(See Illustration on page 47).

In each of the 7 lubrication points ■ grease nipple is fitted. A small quantity of Shell Spirax E.P. 140 oil should be inserted with the gun.

**STEERING BOX—TO CHECK OIL LEVEL
EVERY 2,000 MILES (3,200 KM.)**

The correct oil level is to the bottom of the threads of the oil level filler plug which is fitted to the top of the steering box. Replenishment, if necessary, should be made with Shell Spirax E.P. 140 (See illustrations on pages 51 and 52).

NOTE.—There are in all 23 pressure nipples for the Front Suspension.



EVERY 1,000 MILES (1,600 KM)

Independent Front Suspension—view from rear as seen from under car. Note the seven pressure nipples for lubrication of track rods and steering idler pivot.

FRONT HUBS—TO LUBRICATE EVERY 6,000 MILES (9,600 KM.)

(This work should be entrusted to the Dealer).

The hubs should be dismantled, thoroughly cleaned out and repacked with **Shell Retinax R.B. only**.

Important.—When re-assembling the hub to the stub axle it is essential that the taper roller bearings are adjusted to the correct running clearance which is .005 in. to .015 in. (.1270 to .3810 mm.). This clearance is the actual end float of the hub bearings not side or radial clearance.

CHECKING ~~AND~~ ADJUSTMENT OF FRONT HUBS, FRONT WHEEL TRACK AND CAMBER

It is important that these items are checked periodically, at intervals of 6,000 miles (9,600 km.) and the car should be taken to the Humber Distributor or Dealer for this attention.

In all cases where the front of the car has sustained damage through accident, the car should be subjected to a thorough examination and check of all steering dimensions.

NOTE.—Front wheel "Toe-in" is $\frac{1}{8}$ " (3.175m/m)

Front wheel camber is 0° 45" plus or minus 15' (positive).

TRANSMISSION

CLUTCH

CLUTCH WITHDRAW MECHANISM—TO LUBRICATE EVERY 2,000 MILES (3,200 KM.)

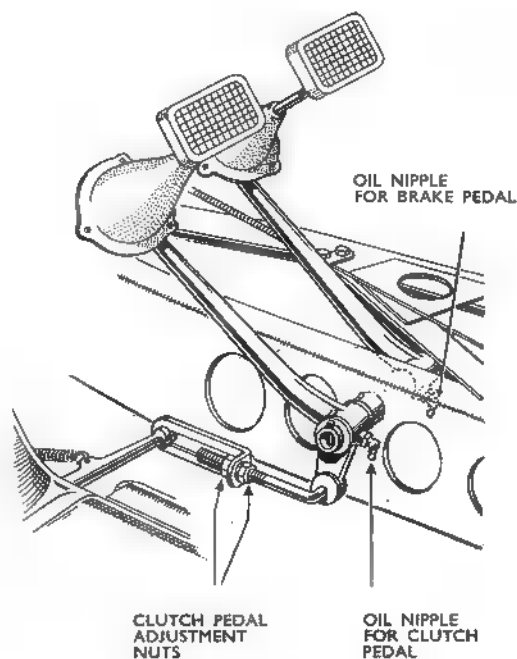
Apply a few drops of Double Shell engine oil to each of the pivot points of the clutch withdraw mechanism shown in the illustration. The mechanism is accessible from underneath the right-hand side (O.S.) of car (left-hand side (N.S.) in the case of L.H.D. models). Apply Shell Spirax E.P. 140 to the two nipples of the clutch and brake pedals. (See illustration on page 49).

CLUTCH PEDAL FREE MOVEMENT—TO CHECK AND ADJUST EVERY 2,000 MILES (3,200 KM.)

Clearance of the clutch pedal is recorded as free movement. **This clearance should be measured at the pedal pad.**

Adjustment when necessary should be effected by manipulation of the two nuts shown in the illustration below, thereby altering the operating length of the clutch withdraw link and, therefore, the pedal clearance.

The correct clearance at the pedal pad is 1" (25 mm.).



Clutch Pedal showing Lubrication and Adjustment.

CHANGE SPEED CONTROL MECHANISM—TO LUBRICATE EVERY 2,000 MILES (3,200 KM.).

(See illustrations on pages 51 and 52).

The twelve points for lubrication of the gear control mechanism, ■ indicated by arrows on the illustrations should each receive a small quantity of Double Shell Engine Oil applied with the oil can. It is particularly important that the control cable (from the mechanism on the lower end of the steering column to the gearbox) should not be allowed to run dry through lack of oil as this cause stiffness of operation of the gear change and, eventually, damage to the cable. The point for lubricating this cable is at its upper end (marked X on the illustrations) and the oil should be inserted between the inner cable and its casing after first removing all dust or grit and raising the small rubber sealing grommet around the cable.

CHANGE SPEED CONTROL CABLE—TO ADJUST.

(See illustrations on pages 51 and 52).

The change speed control cable is carefully adjusted before the car leaves the factory and should not require any attention in this respect in service. The only circumstances in which readjustment might become necessary would be through accidental damage or if the mechanism has been dismantled. To readjust the control cable proceed as follows :—

Remove front floor carpets and the metal gearbox cover from the front floor.

Slacken off the inner cable fixing at the gearbox end of the cable. It is essential to use TWO SPANNERS in order to avoid kinking the cable.

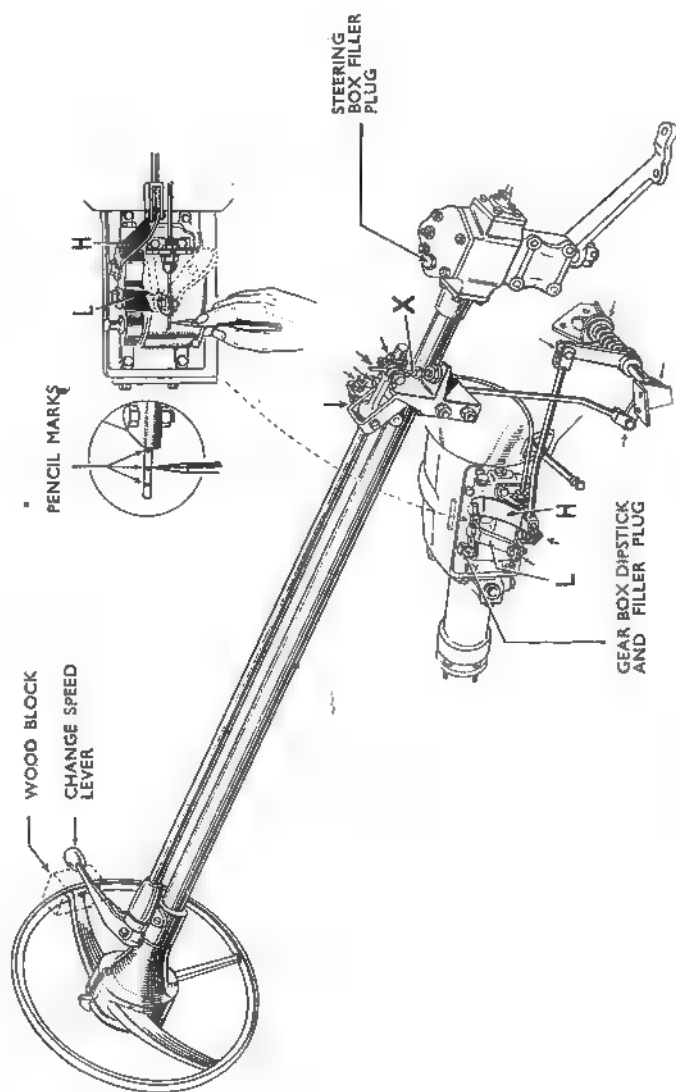
Put gearshift lever "H" in neutral (midway position of traverse) swing the selector lever "L" to midway position and push shift lever "H" forwards, thus engaging first gear in gearbox.

With change speed lever in first speed position, **make ■ it is secured close against the stop, i.e. towards pedals, without operating the ■ stop**, by inserting a suitably sized piece of wood or similar material between the change speed lever and the steering wheel rim.

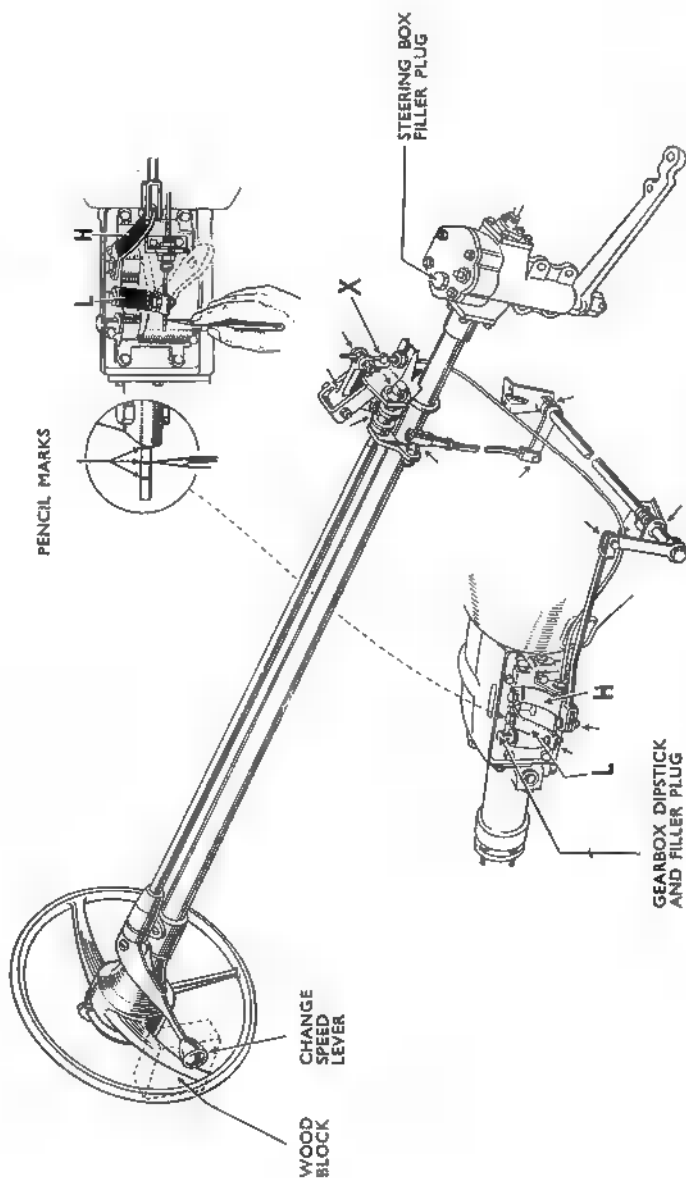
With the left hand, grip the selector lever "L" on the gearbox and move it forwards and rearwards, noting the amount of movement by marking the inner cable with two pencil marks to the rear of the fixing.

The movement thus shown by the pencil marks should then be halved by a third mark.

Move the selector lever "L" until the CENTRAL pencil mark registers with the rear edge of the fixing and tighten in this position,



Change Speed Control Mechanism, R.H.D. Models.
(Small Arrows show Oil Can Lubrication Points).



Change Speed Control Mechanism—L.H.D. Export Models.
(Small Arrows show Oil Can Lubrication Points).

again using TWO spanners. The cable will now be in correct adjustment.

NOTE.—If the protruding end of the inner cable at the gearbox end is first rubbed over with ordinary white chalk, the pencil marks will show up very clearly.

**GEARBOX—TO CHECK OIL LEVEL
EVERY 2,000 MILES (3,200 KM.).**

(See illustration below and on pages 51 and 52).

In order to simplify the checking of the gearbox oil level, ■ combined dipstick and filler plug is fitted in the top of the gearbox



GEARBOX
DIPSTICK AND
FILLER PLUG

MASTER CYLINDER FILLER
PLUG IS ACCESSIBLE WHEN
THIS PLATE IS REMOVED

Access to Gearbox combined Dipstick and Filler Plug and Hydraulic Brake Master Cylinder Filler Plug.

and is accessible through an aperture in the front floor which is sealed by a metal cover plate. This can be seen on raising the small flap in the carpet which is secured by press studs. The metal cover plate is removed by prising up with a screwdriver.

The correct oil level is to the mark on the dipstick. It is important, of course, that the level should never be allowed to fall appreciably below this mark. If replenishment is necessary **Double Shell** only should be used.

GEARBOX—TO DRAIN AND REFILL EVERY 6,000 MILES (9,600 KM.).

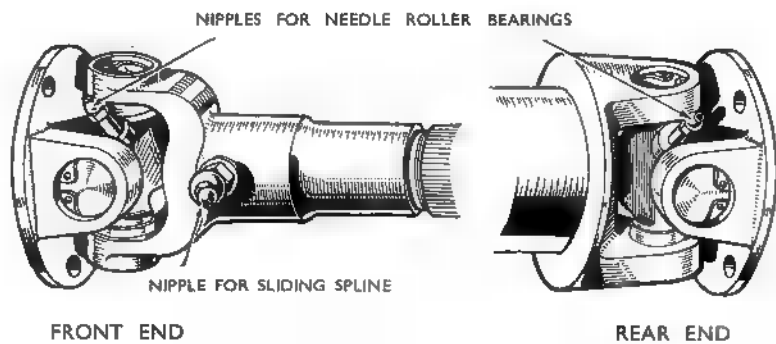
It will greatly facilitate draining of the gearbox if it is carried out when the car has just completed a run and the oil is warm and will therefore flow more readily. The drain plug is in the centre of the bottom of the gearbox casing. Allow to drain thoroughly.

Replenishment should be made with 2 pints (1.13 litres) of Double Shell Engine Oil after the drain plug has been refitted and tightened securely.

PROPELLER SHAFT

PROPELLER SHAFT—TO LUBRICATE EVERY 2,000 MILES (3,200 KM.).

There are three lubrication pressure nipples on the propeller shaft and it is most important that these are not overlooked. Regular lubrication at the intervals stated above is essential in order to



Propeller Shaft showing Lubrication Pressure Nipples.

preserve the smooth running of this part of the transmission and to obviate wear. Neglect will result in rapid wear, noise and vibration with considerable expense involved in the renewal of worn parts.

Sliding Splines

This portion is at the front end of the propeller shaft and is lubricated by one pressure nipple (see illustration). Use Shell Spirax E.P.140 at this point (oil gun).

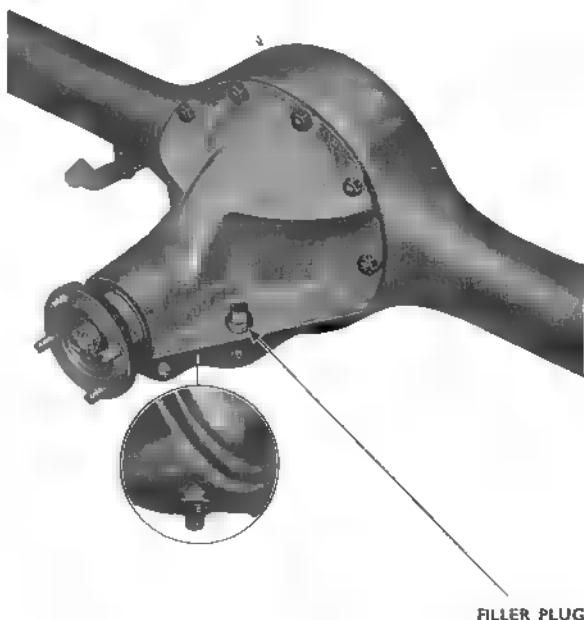
Needle Roller Bearings

These are the internal bearings of the two universal joints at front and rear ends of the propeller shaft. Two pressure nipples are provided (see illustration on page 54). Use Shell Spirax E.P.140 at these nipples.

REAR AXLE

REAR AXLE—TO CHECK OIL LEVEL EVERY 2,000 MILES (3,200 KM.).

The correct level is to the bottom of the combined filler and level plug orifice fitted to the left-hand side (N/S) of the front of the rear axle and differential casing and replenishment, if necessary, should be made with **Shell Spirax E.P.90 only**.



Rear Axle (Drain Plug shown inset).

**REAR AXLE—TO DRAIN AND REFILL
EVERY 6,000 MILES (9,600 KM.).**

The drain plug is situated at the bottom of the axle casing. The draining should be carried out when the car has just completed a run, when the oil is warm and will flow more readily. Refit the drain plug, tighten securely, and refill with 1.75 pints (1 litre) of Shell E.P.90.

NOTE.—Shell Spirax 90.E.P. has been specially designed and made for the lubrication of Hypoid axles and it is essential that it is not contaminated or mixed with any other lubricant. Should this happen, the properties of the additive incorporated in this oil for withstanding the extreme pressures in Hypoid gears may be completely nullified and this may cause a failure of the axle itself. Therefore always ensure that Spirax 90.E.P. is used in this ■■■ axle.

**REAR HUBS—TO LUBRICATE
EVERY 6,000 MILES (9,600 KM.).**

Nipples are fitted to each hub and for these points Shell Retinax R.B. Grease should be applied with the gun. Grease entering the brake drums will damage the linings and impair their efficiency. With this in mind it is imperative that the hubs should not be over-greased, and it is preferable that the work should be done with ■ hand-operated gun only.

REAR AXLE—ADJUSTMENTS

It is recommended that any adjustments to the rear axle that may become necessary after extended mileage should be carried out by ■ Humber Distributor or Dealer as these require expert attention. No details are therefore given in this Handbook.

**REAR ROAD SPRINGS—CLEAN AND LUBRICATE
EVERY ■■■ MILES (3,200 KM.).**

The rear road springs should be wire brush cleaned, and painted with engine oil.

BRAKES

The brakes fitted to the Humber Hawk Mark III are the Lockheed Hydraulic type in which the front brakes are of the Two Leading Shoe Type and the rear brakes of the Leading and Trailing Shoe Type. In this system pressure on the brake pedal forces fluid from ■ master cylinder into cylinders within the brake drums on the wheels, exerting pressure on pistons which actuate the brake shoes.

The hand brake is mechanically operated, through a cable and linkage incorporating ■ compensator mounted on the rear axle casing and operates the rear brakes through levers incorporated in the rear backing plates. The hand brake, therefore, is quite independent of the hydraulic system in operation.

CHECK FLUID LEVEL IN MASTER CYLINDER SUPPLY TANK EVERY 2,000 MILES (3,200 KM.).

The Lockheed Brake Fluid is contained in a supply tank which is integral with the master cylinder and is located under the right-hand side (O.S.) front floor on R.H.D. models (see illustration on page 53) and on Export L.H.D. in ■ corresponding position under the left-hand side (N.S.). The hexagonal filler plug is accessible and removable, by means of ■ box spanner, for inspection or replenishment of fluid level on raising the front floor carpet and removing the metal cover secured by two screws to the floor.

Examine the fluid level in the master cylinder periodically, and replenish if necessary to keep the level half an inch below the filler cap. Do not fill completely. The addition of fluid should only be necessary at extremely long intervals, and a considerable fall in fluid level would indicate ■ leak at some point in the system which should be traced and rectified.

Ensure that the air vent in the filler plug of the master cylinder is not choked ; blockage at this point would cause the brakes to drag.

Adjust the brakes when the pedal travels to within one inch (25 mm.) of the floor board before solid resistance is felt ; if it is desired, adjustment may be carried out before the brake linings have worn to this extent.

BRAKE ADJUSTMENTS CHECK EVERY 6,000 MILES (9,600 KM.)

When properly adjusted there should be $\frac{1}{2}$ in. (6.3 mm.) free movement of the brake pedal pad before the piston in the master cylinder begins to move. When checking this setting take care that the floorboards or mats are not fouling the pedal.

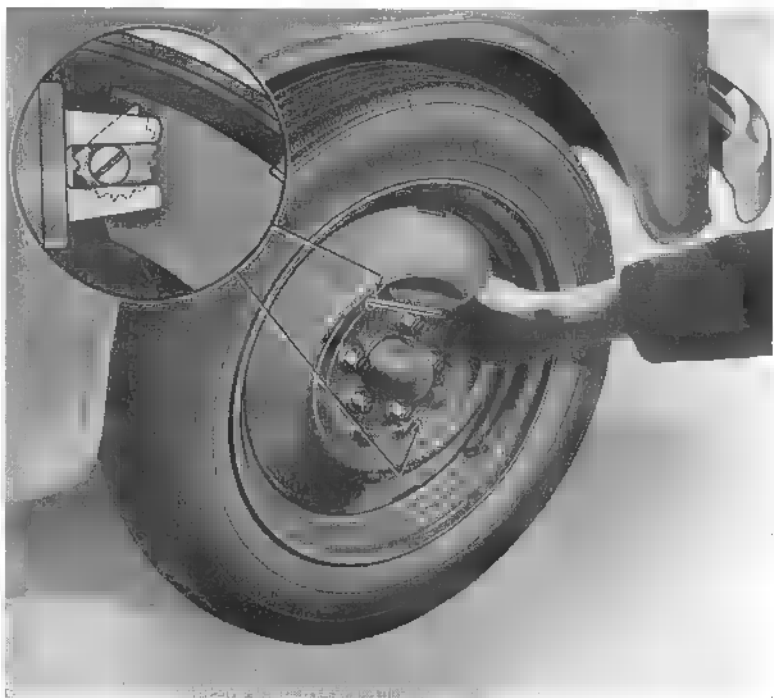
As the linings wear, pedal travel will increase. When a point is reached when the pedal is one inch (25 mm.) off the floorboards

before solid resistance is obtained, the brake shoes must be adjusted.
The actual method of adjustment is as follows :—

TO ADJUST FRONT ■■■■

Ensure that hand brake is on.

- (i) Remove the nave plate from the road wheel and jack up one front wheel until it is free to rotate.
- (ii) Turn the wheel so that the hole in the road wheel and brake drum is opposite the slotted head of one of the "micram" adjusters as shown in the illustration below.
- (iii) Using ■ screwdriver, turn the adjuster in a **clockwise** direction until the brake shoe is in contact with the brake drum, then turn the adjuster anti-clockwise one notch ; this should provide the correct clearance between the shoe and the drum. If closer adjustment is required, spin the wheel and apply the brake hard ; this will correctly position the shoe, after which ■ further adjustment check should be carried out.



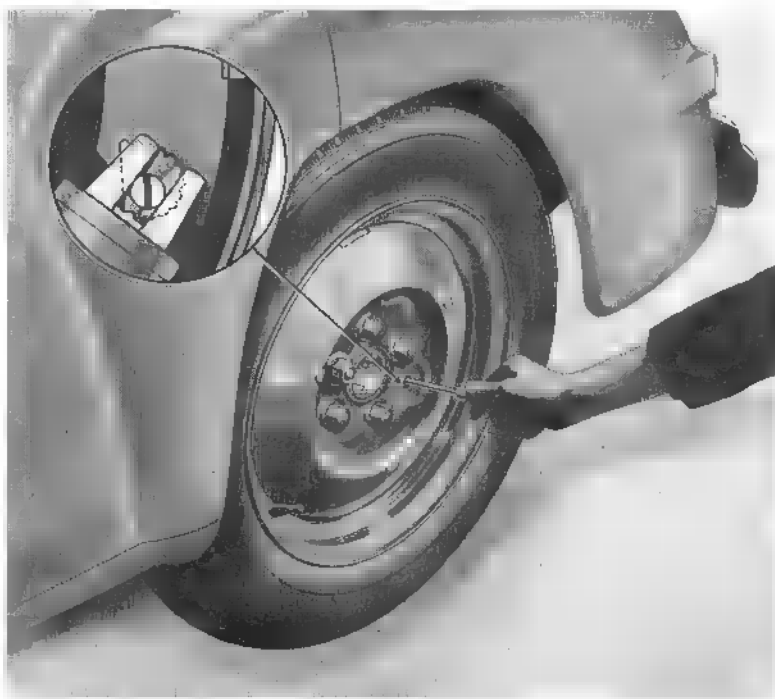
Front Brake Adjustment.

- (iv) Turn road wheel through 180° and repeat operations (i) to (iii) on the second micram adjuster.
- (v) Repeat operations (i) to (iv) on the opposite front wheel.

NOTE.—There are **two** micram adjusters in **each** front brake, **one for each shoe**, and each must be adjusted separately in accordance with the above instructions.

TO ADJUST REAR BRAKES

- (i) Place chocks in front of and behind one of the front wheels to prevent the car rolling and release the hand brake.
- (ii) Remove the nave plate and jack up one rear wheel until it is free to rotate.
- (iii) Turn the wheel so that the hole in the wheel and brake drum is opposite the slotted head of the "micram" adjuster.
- (iv) Using a screwdriver, turn the adjuster in a clockwise direction until the brake shoes are in contact with the brake drum.



Rear Brake Adjustment.

- (v) Apply the foot brake hard, to ensure that the wheel cylinder is centralized, and release the brakes. If after doing this the wheel is still locked, turn back the adjuster one notch, or if necessary two notches, to provide the correct clearance between the shoes and the drum ; if, however, the wheel is free to rotate after centralizing, turn the adjuster until the shoes are in contact with the drum and then turn the adjuster anti-clockwise one notch.
- (vi) Repeat operations (ii) to (v) on the opposite rear wheel.

NOTE.—There is only **one** “micram” adjuster to each rear brake.

HAND BRAKE ADJUSTMENT

Normally the hand brake is adjusted automatically when the foot brake is adjusted.

In the event of excessive hand brake travel still being present after the foot brake has been adjusted in accordance with the preceding instructions, proceed as follows :—

Turn each rear brake “micram” adjuster clockwise as far as it will go, so that the rear brake is locked on hard. With these adjusters still in this position and the hand brake off, adjust the cable length so that the slack is taken out of the linkage ; finally release each rear brake “micram” adjuster one notch or until the brakes are free.

NOTE.—Adjustment of the hand-brake is carried out by detaching the clevis at its rear end from the compensator and rotating the clevis after slackening its locknut. After adjustment, tighten locknut securely and reassemble clevis, using ■ split pin to secure the clevis pin.

BLEEDING THE HYDRAULIC SYSTEM

Bleeding the system, to expel all air, is not ■ routine maintenance operation and should only be necessary when some portion of the equipment has been disconnected or fluid drained off, thereby allowing air to enter.

- (i) Fill the fluid reservoir with Lockheed Brake Fluid and **keep at least ■ quarter full throughout the whole of the bleeding operation**, otherwise air will be drawn into the system ■ defeating the object of the operation.
- (ii) Attach a rubber tube to the bleeder screw on the banjo connection attached to one wheel cylinder and allow the free end of the tube to be submerged in a little fluid in a clean glass jar. (The bleeder screws are indicated on the illustration on page 45 and also on Lubrication Diagram at end of book.)
- (iii) Unscrew the bleeder screw one complete turn, **not more**.
- (iv) Depress the brake pedal slowly and allow it to return

without assistance ; repeat this pumping operation, with ■ slight pause between each depression of the pedal. Observe the flow of fluid being discharged into the glass jar and, when all air bubbles cease to appear, hold the pedal firmly down and securely tighten the bleeder screw. **When bleeding front brakes, give two additional strokes to the foot brake pedal, after all bubbles have ceased to flow to ■■■■ that ■ air is trapped in the top cylinder.**

(v) Repeat on each wheel—one bleeder screw to each wheel.

NOTE.—Clean fluid discharged from the system should be allowed to stand, protected from dust, for several hours until it is quite clear of air bubbles, before being used again. Dirty fluid should be discarded.

HYDRAULIC PIPE CONNECTIONS CHECK EVERY 1,000 MILES (1,600 KM.)

It is of vital importance that there are no leaks at any of the hydraulic brake pipe lines, unions, flexible hoses, etc.; therefore it is essential that these should be checked periodically, when the brakes are receiving normal maintenance inspection or adjustment, and also at 1,000 mile (1,600 km.) intervals. If tightening of unions should be necessary, it is important to use spanners of short length, 4 to 5 inches only (102-127 mm.), so as to eliminate risk of damage to face joints of unions, etc., which might result from over-tightening. **THIS WORK SHOULD BE ENTRUSTED TO THE HUMBER DEALER.**



BRAKE SHOES

The brake shoes, which are patented, carry linings of special construction, which are formed to the exact shape of the shoe in order to obtain a perfect and effective contact on the brake drum. The relining of the brake shoes must be carried out on specialized equipment and for this reason no brake shoes other than **GENUINE RE-LINED SHOES**, which may be obtained from all Humber Distributors and Dealers, should be used.

CLEANING INTERNAL PARTS OF LOCKHEED SYSTEM

Never clean the internal parts of the system with petrol or paraffin, or lubricate with oil or grease. Use "Genuine Lockheed Fluid" for both purposes.

It is essential for replenishment purposes to use only the appropriate "GENUINE LOCKHEED FLUID" which is obtainable from Humber Distributors and Dealers throughout the world.

Use only "Genuine Lockheed Orange Fluid" for Home Models.

Use only "Genuine Lockheed No. 1 Fluid" for Export Models.

IF CAR PULLS TO ONE SIDE WHEN APPLYING BRAKES.

By the Lockheed system equal pressure is applied at each brake. Should the car pull to one side on brake application, since this cannot be cured by adjustment, the shoes, drums, spring anchorages and backing plates should be examined, and in the case of the front brakes the steering connections, to trace the cause of this trouble. In all such cases, the car should be taken to the Humber Distributor or Dealer for examination and rectification.

WHEN CHANGING THE TIRE WHEELS

Care should be taken to see that the adjustment hole in the wheel coincides with the hole in the brake drum.

HAND BRAKE LEVER PIVOT RATCHET, LINKAGE AND CABLE—TO LUBRICATE EVERY 2,000 MILES (3,200 KM.)

A grease pressure nipple is fitted on the conduit of the hand brake cable. One or two applications of the gun with Shell Spirax E.P.140 are sufficient at this point.

The nipple on the conduit will be seen from underneath the car, towards the rear.

The hand brake lever pivot and linkage should be oiled with engine oil (oil can).

DAMPERS

The Dampers are of the Armstrong Hydraulic Double-acting Self-Regulating Type. These should require no attention and therefore should not be disturbed in any way, except for periodical check of the fixing bolts for tightness at intervals of 5,000 miles (8,000 km.) or more frequently under very arduous conditions of usage.

Normally, no periodical topping up of fluid level is required, but in the event of failure of the dampers to function efficiently, the car should be brought to the Humber Dealer for attention.

ADDENDUM

IB226/2. Pages 5 and 63.

September, 1949.

The tyre pressures as printed on this page have now been superseded and should read :—

■

Driver and One Passenger.

24 lbs. per sq. in. (1.7 Kg. per sq. cm.) Cold—Front.

" " " " " (" " " " ") Cold—Rear.

Fully Laden.

24 lbs. per sq. in. (1.7 Kg. per sq. cm.) Cold—Front.

28 lbs. " " " (1.9 " " " " ") Cold—Rear.

TYRE MAINTENANCE

Maintain the correct inflation pressures by checking pressures at least weekly and adjust pressure when necessary. It is important that this should be done when tyres are cold, prior to the car being taken on the road, as incorrect pressures will be recorded if this is done when the tyres have attained normal running temperatures.

Tyres lose their pressures owing to diffusion, even though there is no leakage owing to a puncture or faulty valve. The loss varies from 1 to 3 lbs. per sq. in. (.07 to .21 kg. per sq. cm.) per week and must be made up if the tyre is to give proper service.

Size 5.50 x ■

2 Up Condition.

26 lbs. per sq. in. (cold)	(1.8 kgs. sq. cm.)	Front
28 lbs. per sq. in. (cold)	(1.9 kgs. sq. cm.)	Rear

Fully Laden Condition.

26 lbs. per sq. in. (cold)	(1.8 kgs. sq. cm.)	... Front
30 lbs. per sq. in. (cold)	(2.0 kgs. sq. cm.)	... Rear

See that the caps are fitted to valves and are screwed down firmly by hand. The valve cap alone provides a positive air seal, even if the valve core fails to function, and excludes dust and dirt from the inside valve mechanism.

Excessive tyre wear may result from a variety of causes such as continual excessive braking, continual bumping on the kerb when drawing up at the side of the road, or incorrect steering dimensions. (See page 48). Continual bumping is liable to fracture the tyre casing, resulting in early failure.

Do not allow flint or other road matter to remain embedded in the tread. These should be removed with a penknife or similar tool. If this is neglected the sharp objects may work through the cover and ■ puncture the inner tube, and damage the cover. Cuts and other damage affecting the rubber of the tread, except superficial injuries should have a vulcanised repair. By this means, any extension of the injury can be prevented. Damage affecting the tyre fabric needs attention at once and should always be entrusted to an expert tyre repairer. The use of gaiters or liners in damaged tyres should be permitted only ■ a temporary measure until repairs are possible.

In order to equalise the wear on the tyres and to obtain the utmost service from them, it is recommended that the wheels, including the spare, should be changed round every 2,000 miles (3,200 km.), so that at the end of 10,000 miles (16,000 km.) each tyre has had a period of use in each position on the car.

IGNITION AND ELECTRICAL EQUIPMENT

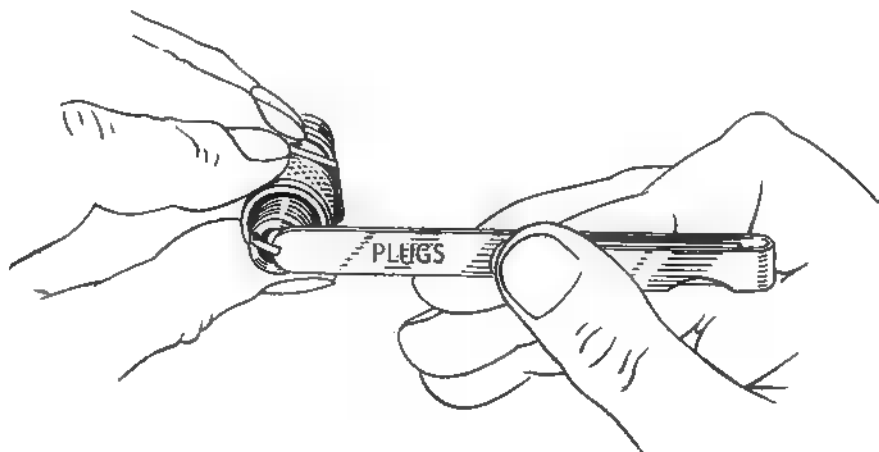
SPARKING PLUGS

SPARKING PLUGS—CLEANING EVERY 2,000 MILES (3,200 KM.)

(This operation should be carried out by the Humber Dealer.)

Sparking plug cleaners and testers are now installed in most Service Stations, which will efficiently clean plugs and at the same time test them for intensity of spark. After cleaning, the sparking plug point gaps should be checked and, if necessary, adjusted before refitting to the engine. The correct sparking plug type is Champion L.10.

It is most important that the copper plug washers are in good condition and that the plug threads are quite free from carbon.



Checking Sparking Plug Gaps.

SPARKING PLUGS—TO CHECK AND ADJUST GAPS EVERY 2,000 MILES (3,200 KM.)

A special gap gauge is included in the tool kit (see pages 19 and 64) to which the gaps should be set by bending the side electrode.

It is important that no attempt is made to adjust the gap by bending the central electrode as this will cause the insulator to crack.

The correct gap is .028"—.032" (0.711—0.812 mm.).

DISTRIBUTOR

DISTRIBUTOR—TO CLEAN AND CHECK CONTACTS EVERY 2,000 MILES (3,200 KM.)

(This operation should be carried out by the Humber Dealer.)

In order to carry out this operation it is necessary to remove the moulded distributor cap by springing back the two securing clips as shown in the illustration on page 66.

Clean the distributor contacts by drawing a piece of clean lintless rag between them; the rag should be moistened with methylated spirit.

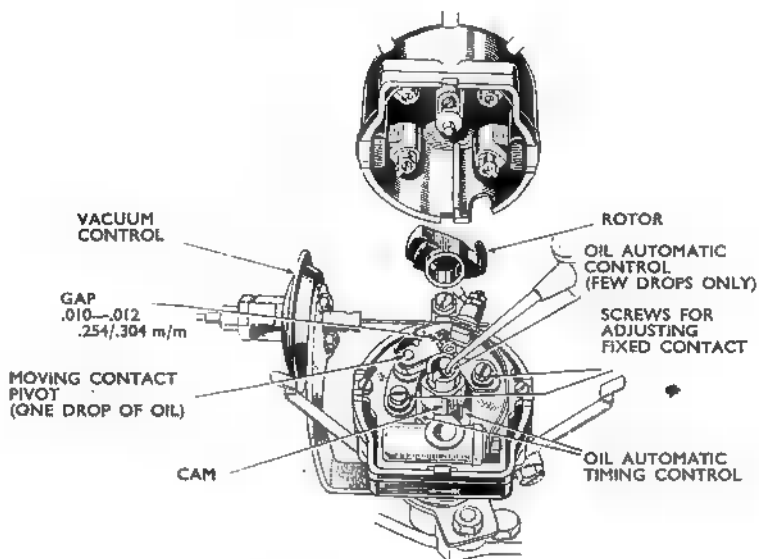
It is important that the gap of the contacts (points) should be set at .010"—.012" (0.254-0.304 mm.), and for this purpose a "feeler" gauge should be used. (See illustration of tools on page 19).

An examination of the distributor will reveal that the fixed contact (point) is mounted on a plate secured to the body of the distributor by two screws. Turn the engine so that the contacts (points) are fully opened by the cam on the distributor shaft. If necessary, slacken the two screws securing the plate and move this plate so that the gap between the contacts is correct to the gauge, which is incorporated in the distributor key (see page 19).

NOTE.—In cases where distributor contacts have become seriously pitted after extended service, a new set should be installed by the Humber Distributor or Dealer.

DISTRIBUTOR SHAFT AND CAM BEARING—TO OIL EVERY 2,000 MILES (3,200 KM.)

Remove the moulded rotor arm from the top of the spindle, by pulling it off, and add one or two drops of Double Shell Engine



Distributor—Checking Contacts and Lubrication.

Oil through the lubricator hole provided in the spindle. Care must be taken to refit the arm correctly and to push it on to the shaft as far as possible, making sure that the slot in the top of the cam registers with the corresponding projection on the inside of the rotor.

Give the distributor cam a **slight** smear with Shell Retinax C.D. and apply a single drop of Double Shell Engine Oil on the pivot on which the moving contact works.

DISTRIBUTOR—AUTOMATIC TIMING CONTROL— TO OIL EVERY 2,000 MILES (3,200 KM.)

The moving parts of the automatic timing control must be lubricated with Double Shell Engine Oil. Carefully add a few drops via the hole in the contact breaker base through which the cam passes. Additionally, the vacuum advance mechanism should receive one or two drops of oil in the small lubricator fitted in the neck of the distributor body, and also at the pivot of the control cable clamp.

IGNITION TIMING—TO CHECK AND ADJUST IF NECESSARY EVERY 6,000 MILES (9,600 KM.)

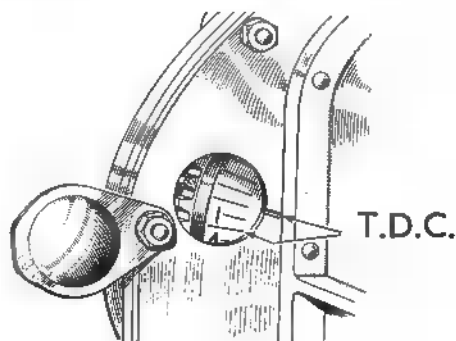
(This work should be entrusted to the Humber Dealer.)

NOTE.—Before attempting to check the ignition timing, ascertain that the contacts are clean and correctly set in accordance with the instructions on page 65. Also, the automatic timing control must be free and correctly lubricated as described on page 66.

The Humber "Hawk" engine is timed to fire when No. 1 piston is 4° (on flywheel) before T.D.C. (full retard). To check this, the crankshaft should be turned by means of the starting handle until the mark $\frac{1}{2}$ (T.D.C.) on the forward face of the flywheel, visible through the aperture in the rear engine plate, is $\frac{3}{8}$ " (9.52 mm.) or two divisions, i.e. 4° before reaching the T.D.C. mark on the rear engine plate, with both valves of No. 1 cylinder (front) closed. The contact breaker points should now be just opening.

If the setting is incorrect, release the clamp at the base of the distributor and rotate the distributor body to obtain the correct adjustment, making sure that any backlash which may be in the drive is absorbed against the direction of rotation of the cam. (Turn distributor body anti-clockwise to advance—clockwise to retard).

NOTE.—These instructions give the best average ignition timing, but individual engines may require slightly differing settings for peak performances. Likewise different fuels may call for different settings of the ignition timing. When fuel having a high Octane Number is available, advance ignition to obtain the best all-round performance.



Ignition Timing Mark on Forward Face of Flywheel.

DYNAMO

DYNAMO—TO LUBRICATE EVERY 6,000 MILES (9,600 KM.)

The dynamo is provided with a wick type lubricator at the commutator end. The cap should be removed and, if the wick is dry, refilled with Shell Retinax H and replaced. Make sure that the wick and spring are replaced as removed, i.e., with the wick towards the dynamo.

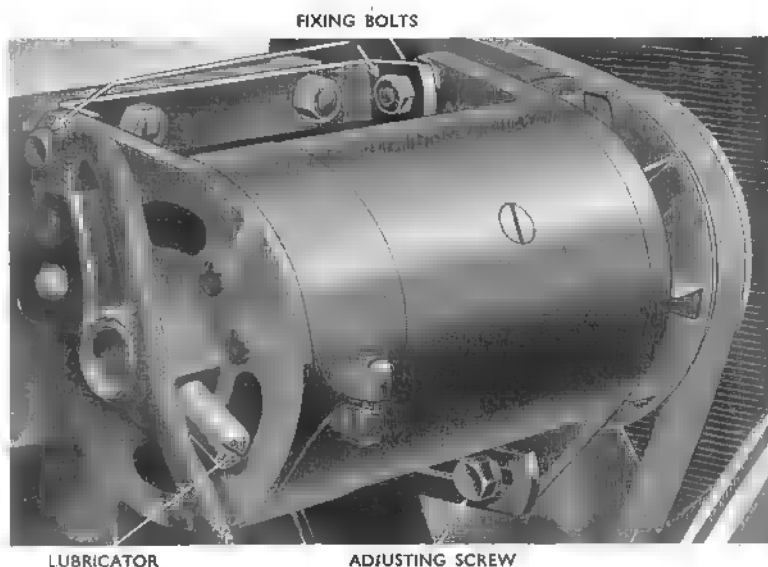
DYNAMO—TO CHECK AND ADJUST DRIVING BELT EVERY 10,000 MILES (16,000 KM.)

This belt drives the dynamo, water pump and fan.

For correct tension it should be possible to deflect the longest run of the belt 1" (25 mm.) by normal hand pressure.

ADJUSTMENT

Should the belt be too slack, loosen the lower (adjusting) setscrew. Slacken the two bolts in the dynamo support bracket. Pull dynamo away from cylinder block until the belt slackness is taken



Dynamo, Water Pump and Fan Belt Adjustment.

up to the correct amount. Holding the dynamo in this position, retighten the lower setscrew and the two bolts in the support bracket.

Do not over-tighten the belt ■ this will impose a heavy load on the dynamo and water pump bearings and might result in rapid wear to the belt and bearings.

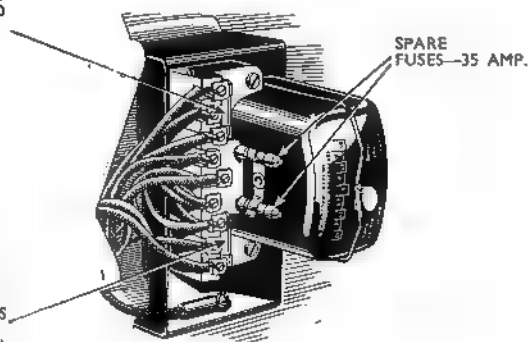
FUSES

Mounted on the engine side of the scuttle is the combined cut-out, regulator and fuse unit. Adjacent to the sealed cover containing the cut-out and regulator are two fuses, one protects those accessories which are operative only when the ignition is switched on, while the second protects the accessories which can be operated irrespective of whether the ignition is on or not. The fuse will blow in the event of a short circuit occurring in the wiring of any of the accessories connected through it. Spare fuses are mounted adjacent to the fuses they replace, but before replacing a fuse the trouble which caused the original one to "blow" should be found and rectified.

NOTE.—The sealed cover of the cut-out and regulator should not be removed. Attention to this unit, in the event of trouble, should be referred to the Humber Dealer or a LUCAS Service Depot.

HORN, ROOF AND
INTERIOR LIGHTS AND
RADIO (WHERE
FITTED)

STOP LIGHTS,
TRAFFICATORS
SCREEN WIPERS
AND HEATER
(WHEN FITTED)



Cut-out Regulator and Fuse Unit.

BATTERY

The battery is mounted under the bonnet, to the right hand side (O.S.) of the engine and is accessible when the bonnet is raised.

BATTERY—TO CHECK EVERY 1,000 MILES (1,600 KM.), ALSO WEEKLY

If the electrolyte level of the battery is found to have fallen, each cell should be topped up with **distilled water only** to the top of the separators which are visible after removing the vent-plugs.

Do not over-fill the cells of the battery ■ this will cause acid to escape through the vents in the plugs and with detrimental effect to the connections and adjacent parts of the car, and impair the efficiency of the battery through loss of acid.

In addition to the regular inspection of the electrolyte level in the battery, the following points should be examined periodically :

1. The terminals and fixings should be kept clean and secure and smeared with petroleum jelly. The earth connections should also be kept clean and tight.
2. The outside of the battery should be kept clean and dry, particularly the tops of the cells and the holes in the vent plugs kept clean and clear.
3. The condition of the battery should be checked periodically by taking hydrometer readings. (This should be carried out by the Humber Distributor or Dealer.)

NOTE.—Never transfer electrolyte from one cell to another when using hydrometer.

If the car is out of use for any length of time, the battery should not be allowed to run down or to remain in a discharged condition. It should be recharged about every fortnight from an independent electric supply.

STARTER

If the pinion on the motor does not engage with flywheel teeth examine the screwed sleeve on the armature shaft to see that it is free from dirt ; if necessary wash off with petrol.

A square end is provided at the front end of the armature shaft so that in the unlikely event of the starter pinion jamming in mesh it may be freed by rotating the shaft with a spanner after removing the cap. The shaft must be turned in a clockwise direction.

LAMPS HEADLAMPS

The headlamps incorporate the Lucas "Light Unit" assembly of reflector and front glass and are fitted with pre-focus type bulbs. The lamps are recessed into the front wings and incorporate pilot lamps within the same reflectors as the headlamps. The focus of the headlamp bulbs is pre-set. Provision, however, is incorporated for adjustment of the alignment of the lamp beams and this is fully described on pages 73 and 74.

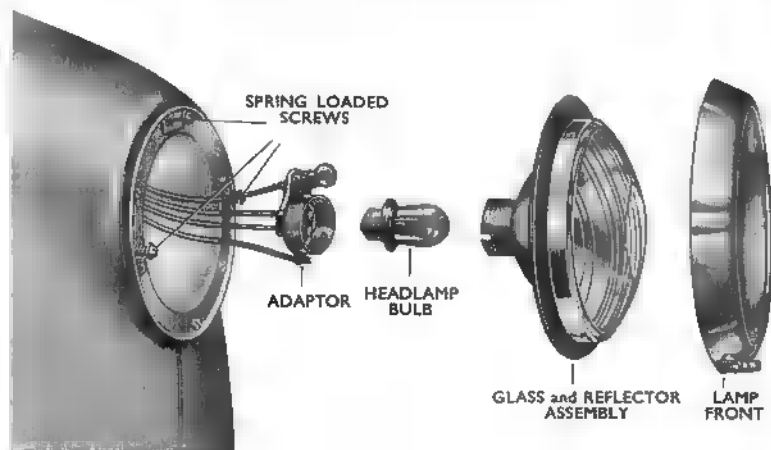
Dismantling of lamps for renewal of bulbs, etc., is extremely simple and the reflectors are specially protected against entry of damp or dirt.

TO REMOVE THE LAMP RIM

Loosen the clamp screw at the base of the rim. The lamp rim can then be lifted off, leaving the glass and reflector, which are permanently sealed together as a unit, still in position. Reverse procedure to re-assemble. (See illustration on page 74).

TO REMOVE GLASS AND REFLECTOR ASSEMBLY

Remove lamp rim as above. Grasp glass and reflector assembly with both hands, press rearwards and turn slightly in an anti-clockwise direction, which will release the three "key hole"



Headlamp Details.

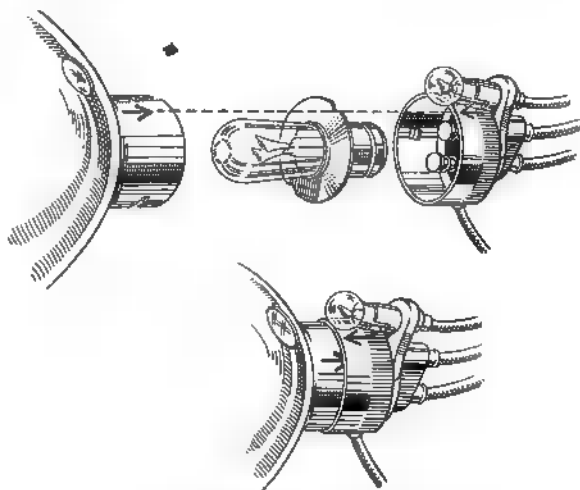
apertures in its rear edge from the three spring-loaded screws. **Do not turn** these screws, as this will upset the alignment of the lamp. Reverse procedure to re-assemble.

TO RENEW BULBS

(See Data—Lamp Bulbs), page 8.

Remove lamp rim and glass and reflector assembly as described on page 71.

PILOT BULB. This is now accessible for renewal and has a conventional bayonet type cap. (See illustration below and on page 71).



Renewal of Headlamp and Pilot Lamp Bulbs.

HEADLAMP BULB. These are of the pre-focus type with flange-type caps and are renewable after removal of the adaptor from the rear of the reflector. Press the adaptor inwards and turn slightly to line up the two arrows marked on the adaptor and reflector, the adaptor can then be withdrawn and the bulb taken out.

To re-assemble adaptor to reflector, press on with arrows in line and turn to the right.

NOTE 1.—On Home Models, a single filament bulb is fitted to the right-hand side (O.S.) headlamp and a double filament bulb to the left-hand side (N.S.) headlamp.

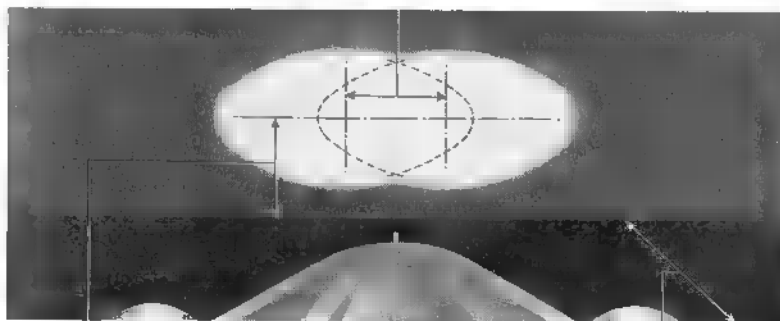
On Export Models, double filament type bulbs are fitted to both headlamps.

NOTE 2.—In replacing headlamp bulbs with double filament types, there are two alternative positions. Replacement bulbs marked "TOP" must be fitted with this word uppermost, other types can be fitted in either position.

NOTE 3.—The double filament bulb is so designed that the filaments are exactly opposite to each other. Hence, if the filament responsible for the dipped beam should fail, remove the bulb and replace it the other way up in order to regain a dipped beam, but there will be no straight ahead beam from the lamp if the switch is in the non-dipped position.

DO NOT ATTEMPT TO REMOVE THE GLASS FROM THE REFLECTOR ASSEMBLY AS THIS IS A SEALED UNIT, THE BULBS BEING REMOVABLE ONLY FROM THE REAR OF THE REFLECTOR.

DISTANCE BETWEEN CENTRES OF HEADLAMPS



1053.

HIGHT OF CENTRE OF HEADLAMPS
FROM GROUND

AS GREAT AS POSSIBLE
NOT LESS THAN 25 FT. (7.6 METRES)

Front of Car must be square with door or wall

Method of Checking Alignment.

HEADLAMPS—TO ADJUST ALIGNMENT

If the car can be parked on a flat space in front of a garage door or wall so that the headlamps are at least 25 feet (7.6 m.) away, the adjusting of alignment can be carried out very easily without taking the car on the road. The lamps must not be dipped during the check.

It is essential that the car is square with the door or wall. The lamps should be aligned so that the horizontal axis of the oval light area is level with the centres of the lamps. The vertical axis should be central with the front of the car.

If ■ lamp is out of adjustment, proceed as follows :—

Remove lamp front.

Switch ■ headlamps.

See that headlamps are not "dipped".

The reflector can be aligned to the required position by adjusting the three spring-loaded screws as indicated in the illustration below. The setting should then be cross checked on the road.



Removal of Lamp Front and Adjustment of Headlamp Alignment.
To adjust beam in vertical axis, turn top screw as shown above. To adjust beam in horizontal axis, turn side screws.

STOP AND TAIL LAMP

A lamp unit is fitted at the side of each rear wing.

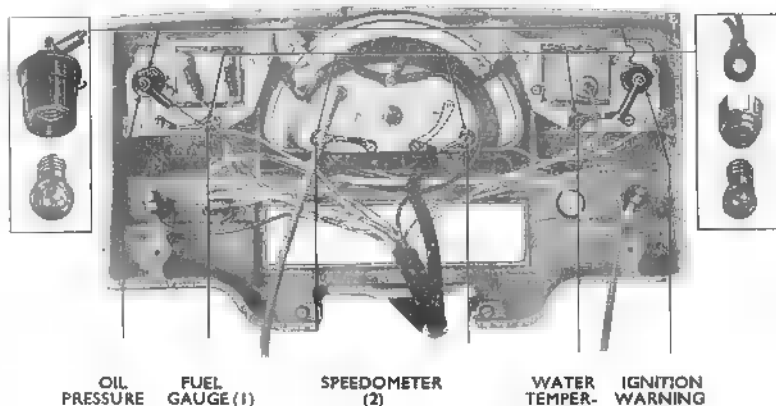
To dismantle—remove the two screws with ■ coin or screw-driver and lift off the red glass and rim. Remove double filament bulb.

When re-fitting the bulb, turn the main lighting switch to "side". Replace bulb. If the powerful filaments light up, remove the bulb and give it one half turn and replace.

REAR NUMBER PLATE ILLUMINATING LAMP

This contains two bulbs.

To dismantle, remove two screws from the lamp cover with a coin or screwdriver. Lift off cover, this will disclose the bulbs.



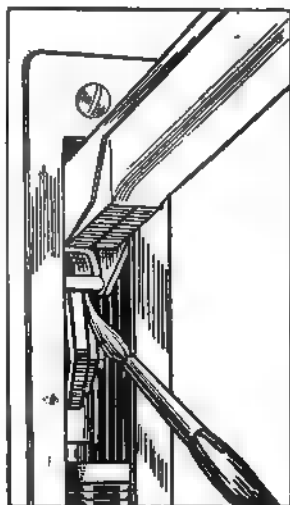
Facia and Instrument Lamp Details.

FACIA AND INSTRUMENT LAMPS—TO REPLACE BULBS AND TO REPLACE BULBS IN WARNING LIGHTS.

There are six single filament bulbs behind the facia.

To replace the bulbs in the oil pressure warning light, fuel gauge, water temperature gauge and ignition lights, no dismantling is necessary, the hand can be inserted to the rear of the instrument panel from the passenger side and any of the bulbs can be extracted from their cylindrical sockets. The connecting wire is of sufficient length for the bulb holder to be brought into view to facilitate replacement of these bulbs are of screw cap type. The fuel gauge and water temperature gauge bulbs are retained by spring arms, which must be swung out of the way to detach the bulb carrier from the facia.

Two bulbs are used to illuminate the speedometer dial, as shown in the illustration, and both these bulbs have similar retaining spring arms.

TRAFFICATORS—TO LUBRICATE*Trafficator Lubrication.*

**EVERY 6,000 MILES (9,600 KM.)
AND EVERY THREE MONTHS**

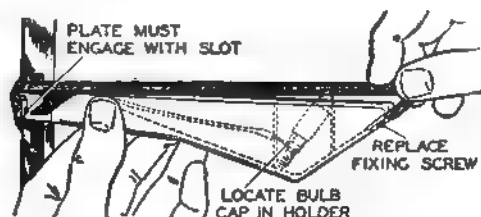
Switch on the trafficator, support the arm in horizontal position, and switch off. A drop of engine oil should then be applied by a small pencil brush. Only the merest drop of oil should be used, any excess may affect the working of the operating mechanism.

Also withdraw the screw on the underside of the arm and slide off the arm cover. Place the connecting wire to the bulb on one side and apply two or three drops of engine oil to the lubricating pad at the top of the arm adjacent to body pillar. To replace the arm cover, slide it in upwards direction so that the side plates engage with the slots on the underside of the spindle bearing and secure with screw.

the slots on the underside of the spindle bearing and secure with screw.

TRAFFICATORS—TO REPLACE BULB

Switch on the trafficator, support the arm and switch off. Withdraw the screw on the underside of the arm cover and slide off the latter; the bulb can then be replaced. Refit arm cover as described in preceding paragraph.

*Trafficator (Replacing Bulb).*

WINDSCREEN WIPERS

The windscreen wiper motor and the mechanism, mounted on the inside of the wing valance, require practically no attention ; all moving parts which require lubrication are packed with grease during assembly and ■ further lubrication or adjustment is required.

If the rubber of the wiper blades becomes worn or perished, the blades can be replaced at very small cost.

See Data, page 8, for all lamp bulb types.

COACHWORK

When washing the car, use plenty of water, the body should be hosed and sponged down lightly. Never remove dust or grit from the paintwork whilst dry as this will damage the finish. No soap or chemicals should be used in the water. After the mud and dust has been removed by water and sponge, the body should finally be dried with ■ chamois leather. It is desirable that ■ suitable good brand of polish should be used periodically according to the conditions under which the car is used, in order to remove "traffic film" from the surface of the paintwork. With the surface thus cleaned and conditioned, the periodical application of a good quality wax polish, specially prepared for the purpose, is recommended.

CHROMIUM PLATING

When chromium plating becomes tarnished this may be cleaned with a good brand of chromium plate cleaner. Finish off by rubbing with ■ cloth and thin machine oil, finally buffing up with ■ clean dry rag. Many of the chromium plate cleaners are also very good for cleaning the door glasses and windscreen.

LEATHER

This should be cleaned by occasionally wiping over with ■ damp cloth. It is important that the cloth should not be wet but merely damp. If necessary a little soft soap should be used, but caustic soaps petrol or spirit should not be used as these have a very harmful effect.

HEAD LINING.

This can be cleaned with soft soap and water.

DOOR LOCKS, HINGES, BONNET CATCHES AND HINGES, Etc.—TO LUBRICATE EVERY 2,000 MILES (3,200 KM.)

These should be lubricated with engine oil from ■ oil can, and surplus oil wiped off in order to prevent damage to clothing and the collection of dust. A lubricating hole is drilled in the side of each hinge, these are accessible when the doors are opened.

FROST PRECAUTIONS

To avoid the possibility of the cooling system freezing whilst the vehicle is stationary, or whilst being driven in very cold weather, it is recommended that an anti-freeze compound obtainable from any Distributor or Dealer should be used, and added in the quantities stipulated by the anti-freeze manufacturers.

We recommend anti-freeze mixtures based on inhibited glycol. Mixtures using alcohol ■ ■ base are not suitable, due to the engine temperature when the Winter thermostat is in use, as this may cause loss of anti-freeze by evaporation.

Commercial Glycerine must under no circumstances be used.

IMPORTANT NOTE

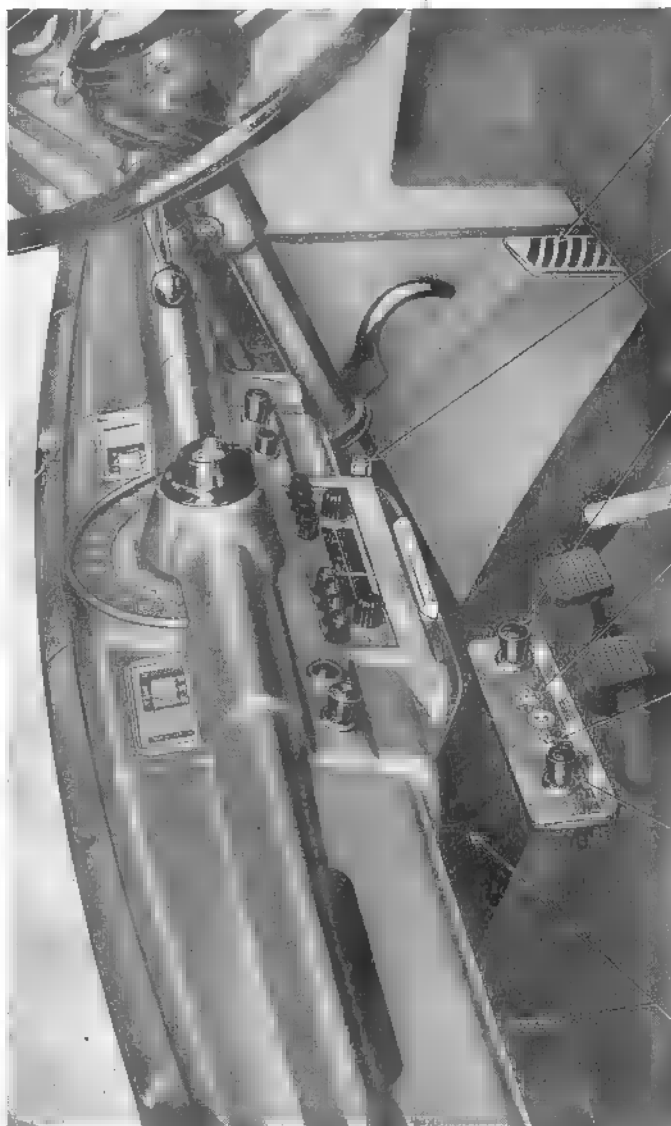
Before putting anti-freeze compounds of any kind in the cooling system, it is imperative that the cylinder head and all hose connections should be checked for tightness, as these compounds have a very searching effect and should any leak into the sump, very serious damage could ensue owing to the possibility of engine seizure.

If the radiator has not been protected with anti-freeze compound when extreme conditions have been encountered it should be drained before being left standing for any length of time and refilled with warm, but ■■■ boiling, water before moving off.

If there is no anti-freeze in the radiator and the atmospheric temperature ■ below freezing point, the radiator should be blanked right off with ■ rug or muff until the engine has reached its working temperature.

PROVISION ■■■ OF NON-SKID CHAINS

Provision is made in the form of slots in the discs of the wheels, adjacent to the rims, to allow the fitting of non-skid chains. The use of such chains is recommended in heavy snow or icy conditions, also for use on soft and loose surfaces. Strap-on type chains only should be used of which there are many types available. Consult the Distributor or Dealer.

AIR OUTLET
DUCTSCUTTLE
VENT

SCREEN

FAN
SWITCHLIGHT
SWITCH

AIR

RE-CIRCULATION
DOOR
CONTROL LEVERS

HEATING, DE-MISTING AND AIR CIRCULATION SYSTEM (WHERE FITTED)

(See illustration on page 80).

This highly efficient system ■ be installed as ■ optional standard extra, as full provision is incorporated in the design of the car.

This equipment has ■ three-fold application :—

1. For heating the passenger compartment under a varying range of climatic conditions, from very cold to normal cool weather.
2. For de-misting and de-icing the windscreen under all conditions.
3. As a ventilating and cooling system in hot weather.

Hot or cold air can be directed at will on to the feet of the driver and passengers. Air ducts are also built in to the sides of the body, to warm the front passenger's legs, adjacent to the front doors of the car. These ducts also direct air into the rear compartment, for the comfort of the rear passengers.

OPERATING INSTRUCTIONS.

The following instructions make no attempt to set out all possible combinations of the controls of this comprehensive equipment. The aim has been to show how the controls should be set to counteract extreme climatic conditions, while leaving the precise settings within these wide limits to the discretion of the individual owner.

COLD WEATHER

These instructions presume that the water valve on the cylinder head will be left permanently open during cold weather. This valve ■ opened by turning fully in an anti-clockwise direction.

TO OBTAIN MAXIMUM HEATING (Passenger Compartment).

- | | |
|------------------------|--|
| SCUTTLE VENTILATOR ... | CLOSE by raising lever to horizontal position. |
| RECIRCULATION DOORS | OPEN both doors by pulling levers. |
| AIR CONTROL ... | PULL OUT fully. |
| SCREEN CONTROL ... | PUSH IN fully. |
| FAN CONTROL ... | SWITCH ON and note that warning light indicates that fan is operating. |

HOT WEATHER.

These instructions presume that the water valve on the cylinder head will be left permanently closed during hot weather. This valve is closed by turning fully in a clockwise direction.

TO PROVIDE MAXIMUM CONTROLLED VENTILATION.

SCUTTLE VENTILATOR ... OPEN fully.
RECIRCULATION DOORS CLOSE both doors.
AIR CONTROL ... SET TO MID-WAY POSITION.
FAN CONTROL ... SWITCH OFF.
SWITCH ON for speeds below 30 m.p.h. (48 k.p.h.)

TO REGULATE VENTILATION.

SCUTTLE VENTILATOR ... ADJUST OPENING as required.
RECIRCULATION DOORS CLOSE one or other of these ■ required.

NOTE.—See also directions for direct ventilation in separate section below.

DE-MISTING.**TO CLEAR SCREEN.**

SCUTTLE VENTILATOR ... OPEN fully.
RECIRCULATION DOORS CLOSE both doors.
SCREEN CONTROL ... SET TO MID-WAY POSITION.
AIR CONTROL ... PUSH IN for initial screen clearance.
PULL OUT as required when screen has been cleared.
FAN CONTROL ... SWITCH OFF.
SWITCH ON for speeds below 30 m.p.h. (48 k.p.h.)

CONTROL PANEL ILLUMINATION.**TO ILLUMINATE CONTROL PANEL AT NIGHT.**

LIGHT SWITCH ... SWITCH ON.
(NOTE.—This lamp also serves ■ ■ excellent map reading light when required).

NOTE.—BOTH HEATER AND RADIO CAN BE FITTED IF DESIRED.

DIRECT VENTILATION—NO HEATER FITTED.

To secure maximum ventilation open scuttle vent fully and open both recirculation doors. The ventilation may be controlled by adjusting the opening of the scuttle vent or alternatively by closing one or other of the re-circulation doors.

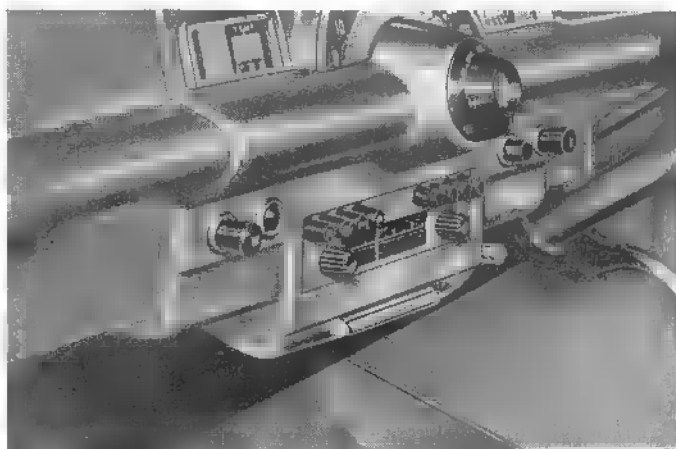
Interior ventilation may also be regulated by opening the sunshine roof as required and by raising or lowering any of the four dropping windows. In addition the draughtless ventilators may be partially opened to act as extractors or fully opened so that they become air scoops.

CAR RADIO

Full provision is incorporated in the car so that "His Master's Voice" Automobile Radio can be fitted. Applications for fitment should be made to the Humber Distributor or Dealer.

The set is "His Master's Voice" Automobile Radio (a product of Radiomobile Ltd.), 6-valve superheterodyne, medium and long wave. Push button controls are located above the speaker, as shown in the illustration below, and an automatic volume control is incorporated, in addition to manual volume control, which counters "fading" in built-up areas and hilly country.

The servicing of "His Master's Voice" Automobile Radio will be carried out only by authorised "Radiomobile" Accredited Dealers. Enquiries in connection with this work should be directed to Humber Distributors or Dealers.



For Operating Instructions refer to "His Master's Voice" Instruction Manual.

SERVICE NOTES

This Owner's Handbook is not intended to be a service repair manual, but it is written to place in the hands of the owner-driver those instructions necessary for the efficient maintenance of the car. If work becomes necessary which has not been detailed in this book, it is strongly recommended that contact should be made with a Humber Distributor or Dealer, who will be found to be fully capable of giving absolute satisfaction and will be able to carry out work efficiently in the shortest possible time.

DECENTRALISED AND FACTORY SERVICE

In order to provide the best possible service for Humber users the Distributor and Dealer Organization throughout the world forms a link between the owner and the Factory.

All problems relating to the servicing of Humber cars are dealt with through that Organization, Humber Distributors and Dealers having behind them the backing of the Factory Service Department.

SERVICE PARTS

It is essential when replacements are necessary that parts manufactured to the specification of the actual producer of the car should be used. In order to ensure that such parts are available throughout the country Humber Distributors and Dealers are under contract to supply and to use for regular Service work none other than GENUINE HUMBER SERVICE PARTS. By this means owners are safeguarded against the possibility of trouble by the use of spurious parts.

SERVICE TECHNICAL SCHOOL

A Service Technical School is maintained at the Factory for the express purpose of giving specialized instruction to mechanics of Humber Distributors and Dealers in the mechanical details of the products of the Company. Its aim is to make good mechanics expert in the Company's products. Humber Distributors and Dealers have taken full advantage of this Service School and have, therefore, fully trained men on the spot.

COMMUNICATIONS TO THE FACTORY

Communications from owners regarding their vehicles and any constructive criticisms which they wish to put forward are always welcome at the Factory and owners are assured that the technical knowledge of Humber Service Department is always at their disposal.

When communicating with the Factory it is imperative that :—

- (a) **CHASSIS NUMBER** and subsequent letters of the car in question should be quoted. The chassis number will be found on a plate fixed to the engine, side of the scuttle. In addition it is also stamped on the front left-hand side (N/S) of the chassis frame behind the front suspension cross member. The **ENGINE NUMBER** is stamped on the plate fixed to the scuttle, and also on the top right-hand side (O/S) of the cylinder block. This information may be required for Customs purposes.
- (b) The reference of any previous correspondence should be quoted.

Strict adherence to these two points will avoid any possibility of delays occurring or incorrect information being given.

TOURING ABROAD

When touring abroad it is advisable to carry ■ small supply of replacement parts such as Gaskets etc. Owners contemplating Overseas touring should make application to their Hillman Distributor or Dealer for ■ recommended list of such parts, and the provision of these parts if required.

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